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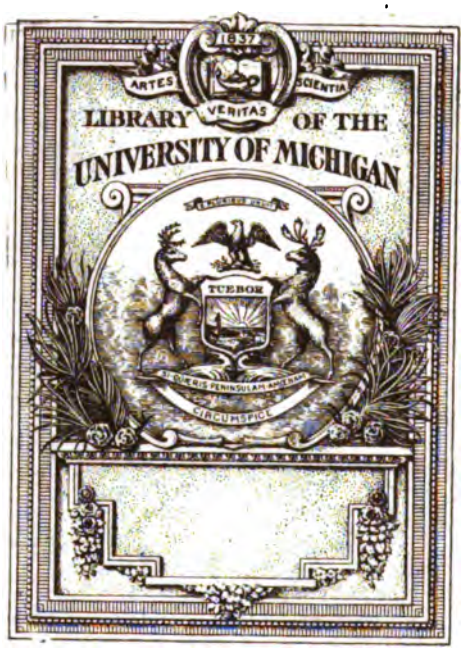

THE GIFT OF
Shanghai Inspector
General of Customs

C54m

CHINA.

IMPERIAL MARITIME CUSTOMS.

735-27

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 30TH SEPTEMBER 1896.

52nd Issue.

PUBLISHED BY ORDER OF

The Inspector General of Customs.

SHANGHAI:

PUBLISHED AT THE STATISTICAL DEPARTMENT OF THE INSPECTORATE GENERAL OF CUSTOMS,

AND SOLD BY

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[*Price* $1.]

1896.

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INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

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Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.— * * * * *

I am, etc.,

(Signed) ROBERT HART,
I. G.

THE COMMISSIONERS OF CUSTOMS,—*Newchwang*, *Tientsin*, *Chefoo*, *Hankow*, *Kiukiang*, *Chinkiang*, *Shanghai*, *Ningpo*, *Foochow*, *Amoy*, *Swatow*, and *Canton*.

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DR. C. C. DE BURGH DALY'S REPORT ON THE HEALTH OF NEWCHWANG

For the Half-year ended 30th September 1896.

THERE were four births and one death.

During the period under review the general health of foreign residents was satisfactory. A case of diphtheria, the first which has occurred for several years, ended fatally. The patient, a girl aged 18 months, first showed symptoms of ordinary tonsillitis on 29th April, but from this attack she completely recovered in two or three days, and was running about and apparently in excellent health until the evening of 8th May, when her mother noticed her breathing during sleep was rather noisy. Next morning there was a membranous patch on the right tonsil; the dangerous nature of the disease was at once recognised, and, in the absence of anti-diphtheritic serum, treated in the ordinary way. The case went rapidly from bad to worse, collapse occurred at 1 P.M. on 10th May, and death followed at 4 P.M. on the same day. The breathing was not at any time seriously interfered with.

Dr. GRIEVE, who had very kindly taken charge of my practice during my absence, at once took precautions to prevent the spread of the disease, and to him I am indebted for this account of the above case. Dr. GRIEVE adds that he had foreseen and pointed out the danger of syncope occurring on any exertion, but the little patient was very restless and insisted on getting into her parent's arms, and it was during this slight effort that collapse took place.

I regret that I am unable to report any improvement in the conditions of our food supply. Water, milk, and general food are all in constant danger of contamination with filth of various kinds.

So far as I could ascertain, the health of the native residents was also satisfactory, no epidemic of any kind having occurred.

A most determined attempt at suicide took place on board a British ship. A pantry "boy," a native of Ningpo, aged 23 years, had a dispute with the steward, and, seizing a small table-knife which was well worn down by frequent polishing on a knife-board, he entered it on the left side of his throat, and, cutting backwards and across, severed the trachea and œsophagus. When I saw him he was not much collapsed: very little bleeding had taken place; the wound was over 2 inches from side to side and was very deep in the central line; the trachea, completely severed, was tilted and in a faulty position with relation to the entrance to the larynx. On attempting to drink the fluid came out through the wound or passed into the trachea, causing violent fits of coughing. For over 60 hours the patient absolutely refused to allow us to do anything for him, struggling violently and with great strength whenever I attempted to feed him. His one wish was to die quickly, and he implored me to bring about

that result by cutting his throat to a still greater extent. However, starvation reduced him to a better state of mind and he expressed a desire to live and be cured. A soft rubber tube was passed by the mouth every four hours and guided into the lower opening of the œsophagus by a finger in the wound. In spite of a sharp attack of bronchitis he made rapid progress towards recovery, and left here some weeks after, on the advent of cold weather, with only a small opening into the trachea and œsophagus. He was given a tube and taught how to pass it for himself.

In accounting for the wild and blood-curdling legends about the doings of foreign surgeons and others, which are so prevalent amongst the natives, it may be of interest to add that this youth, in order to save his "face" in regard to the mutilation of his body by his own hands, gave the following explanation of the occurrence to the comprador and other natives on board the steamer he travelled home in:—"When I arrived in Newchwang I was very ill, and the captain sent me to the foreign doctor, who was unable to cure me, and consequently he (the foreign doctor) cut my throat in order to let out the hot air."

DR. E. W. VON TUNZELMANN'S REPORT ON THE HEALTH OF CHEFOO

For the Year ended 30th September 1896.

DURING the first half of this period the health of the Customs staff and of the foreign residents in general was very good, there being only the few below-mentioned cases of severe illness.

One member of the out-door Customs staff was in hospital for 14 days, suffering from malarial fever (contracted in South China) and severe dyspepsia. Three others were on the sick list for twelve, four, and five days, suffering respectively from ulcers on the shin, bronchial catarrh, and retino-choroiditis (specific).

The following case of intestinal obstruction, after recovery from acute dysentery, is of interest in several respects. It was in a male aged 3 years. He had had an acute attack of dysentery in August 1895, from which he recovered satisfactorily. When 4 months old also he had had severe bowel trouble. Prior to 16th November he had been in excellent health for some weeks; had gained weight, was plump, ate well, his diet being sedulously watched; usually one motion a day; inclined to be constipated. On 16th November he had the usual formed motion early; at midday he complained of pains in the stomach, would not eat. He was given 1 drachm of castor oil by the mother; this was vomited, with undigested food. At 5 P.M. I found him asleep; he was a little hot. At 7 P.M. his temperature was 102°.1 F.; I gave him frequent small doses of aconite. I was sent for at 1 o'clock the following morning, as he had been vomiting constantly, watery mucus; pulse about 140, small, soft; I gave him 10 minims of Schacht's solution of bismuth, etc., every two hours. By 9 A.M. the vomiting had ceased. A small enema at 1 P.M. brought away only a few scybala. 2 grains of mercury with chalk at 5 P.M. produced no result. He vomited two or three times during the night, and at 9 A.M. next day the bismuth mixture was resumed. Vomiting continued all day, getting hourly more frequent, of bile-stained mucus, granular yellow sediment, etc., no smell; the abdomen was retracted and hard; frequent colic made him cry continually; there was tenderness over the cæcum, and a little dulness on percussion. At 5.30 P.M. I examined him under chloroform; found a fæcal mass in the cæcum and ascending colon, where there was extreme tenderness, obvious through the narcosis. (*N.B.*—At no time was there any tenesmus or desire to go to stool.) A large soap and water enema, introduced with some force through a catheter passed about 6 inches into the bowel, together with kneading of the abdomen, brought away a large mass of hard and foul-smelling scybala; an hour later a large loose motion was passed. The acute symptoms ceased at once, not to recur; the retraction and hardness of the abdomen and the tenderness over the cæcum subsided only slowly, and for some days there was occasional colic, and a tendency to constipation, obviated by syrup of senna, etc. The child recovered completely, and has had no such severe attack since; but periodically he has had threatenings

of such, attacks of colic, local tenderness, constipation, etc.; these have progressively got less and less severe. It is clear that the dysentery in August had so injured the bowel as to make it liable to occasional local loss of tone, with consequent local obstruction and the thereon dependent troubles. In several respects the case resembles that of the Franciscan Sister described in my last year's Report, except that the dysentery and subsequent obstruction in the former were farther apart in time.

Early in February a young married woman, not a European, suffered from fever, moderately high; as no other symptoms were complained of, and she had recently come from a malarial district, I suspected the pyrexia to be malarial. A careful examination of the blood, however, revealed no malarial plasmodia and no pigmented leucocytes; only some leucocytosis, suggestive of inflammation somewhere. A careful physical examination revealed fixation of the uterus and a tender spot on the left side of the cervix. The local symptoms rapidly grew worse, pain, tenderness, etc., until I resorted to ichthyol tampons,* which gave her immense relief; the abscess discharged spontaneously per vaginam, and closed up rapidly.

On 4th October one of the Franciscan Sisters sustained a bad fracture of both bones of the left leg by falling into a cellar. I saw her a few minutes later; helped to extract her from the cellar, a difficult, and for the patient a painful, task; immediately set the limb, and put it up in plaster of Paris. She made an excellent recovery, and when, on 11th November, I removed the plaster case, finding no shortening or distortion and the joints flexible, she was able to get about almost at once, with the aid of a crutch for the first day or so.

In January one male adult suffered from a sharp but transient attack of pneumonia. Another had a moderately severe attack of influenza.

On 31st January I was sent for by a young European lady, who had fainted. I found her excessively anæmic, dangerously so, and her heart in a condition suggestive of fatty degeneration; the pulse, when lying quiet in bed, was 120, very quick, small, almost thready; the first cardiac sound was short, high-pitched, and faint. Altogether, her condition caused me the gravest concern. She improved somewhat on careful dieting and the use of iron and strophanthus, but when I saw her on 5th February she had just vomited some ounces of blackish-red blood, and complained of severe pain in the left hypochondrium, first felt during the night; her pulse was 132 and thready. Slight improvement followed on the administration of predigested food, with ice when required, and an occasional hypodermic of morphia, to relieve the severe pain associated with the ulcer in the stomach. On 8th February the exertion of sitting up in bed to micturate caused her to faint, and she remained unconscious for half an hour. The symptoms due to the gastric ulcer had been subsiding, but the cardiac condition was such as to justify the keenest anxiety, and it was clear that a fresh hæmorrhage, or any of the other accidents liable to supervene in a case of gastric ulcer, must almost necessarily be fatal. I therefore resorted entirely to rectal alimentation, and for some days she existed exclusively on predigested fowl's blood administered thus. It was well retained and absorbed, and by 10th February she was distinctly stronger, the pulse being 104. Small quantities of predigested milk gruel were now given by the mouth, and also a mixture containing bichromate of potash, $\frac{1}{30}$

* *Medical Annual*, 1895, p. 510.

grain to each dose, given on an empty stomach,* the rectal alimentation being continued as well for a few days, until it became no longer necessary. The patient made a complete recovery, bore the summer well, and a trip to Japan ultimately established her in vigorous health.

The only other case of interest, excepting the series which follow, is that of the captain of a Norwegian steamer, who fell down a hatchway and sustained a somewhat uncommon injury, viz., fracture through the surgical neck of the right humerus, together with dislocation of the upper fragment. The dislocation was reduced, after two days, under chloroform, and the fracture set; on 19th June the fragments were well united, without any shortening. As I have not seen the patient since I am unable to state whether the joint is stiff or not.

The health of the community, both residents and visitors, as well as that of the natives, during the summer now just over has been uncommonly good, there having been no epidemic disease, like last summer's cholera, nor any considerable amount of dysentery or severe diarrhœa. The few cases of infantile diarrhœa which I have had under treatment, two or three of which set in severely enough, yielded almost immediately to treatment. The only offset to this happy condition has been the prevalence among the natives of malarial fever to an extent hitherto unknown in Chefoo; my colleague Dr. DOUTHWAITE informs me that during several months he treated daily some 20 fresh cases in his native dispensary. The Chinese attributed it, probably with accuracy, to the extensive turning up of long undisturbed ground, consequent on the roadmaking and building operations which this year have been carried on to a greatly increased extent. I frequently visited Dr. DOUTHWAITE'S dispensary in order to obtain material for the study of the malaria plasmodium; the fever was usually tertian; and though quotidian cases were also common, I found in every case which I examined that the parasite was the well-known tertian plasmodium, two generations so maturing in these quotidian cases as to disguise the real type. I did not succeed in finding bodies of the crescent series in any of these cases; and as they were not of a severe character, it is probable that there were not many to find, if any.

As regards foreigners, I have never until recently seen a single case of malarial fever acquired for the first time in Chefoo or its neighbourhood; and when, towards the end of the summer, I saw case after case of fever originating *de novo* among the Chefoo residents, I naturally associated the outbreak with the disturbance of the foreshore on the west side of the Settlement. The dependence of malarial fevers upon the disturbance of soil which has long lain fallow, especially when such soil is saturated with organic matter, is wet, and is daily exposed for many hours to a blazing sun—conditions which unquestionably obtained in this case,—has so long been one of the truisms of sanitary science, that the possibility of its being questioned did not occur to me. As, however, very emphatic contrary opinions have been expressed, I cannot but refer to the abundant evidence in favour of my position contained in PARKES' *Hygiene*, MACLEAN on "Malaria," DAVIDSON on "Malaria," etc. This not being the place to summarise it, I permit myself only one short quotation:—"Malaria is notoriously rife in soils the upper strata of which are rich in organic matter, and are from any cause left to nature and the influence of the sun" (MACLEAN, article "Malaria," QUAIN'S *Dictionary of Medicine*).

A part of the foreshore has long been used by myriads of coolies for the deposition of ordure and all sorts of organic refuse, and such of it as is overflowed at high water is never-

* *Medical Annual*, 1895, p. 43.

theless very imperfectly cleansed by the sea, the water being very shallow, only a few inches deep in many places. At another spot a drain from the native town has been pouring out organic filth for years, so that the mud is chiefly composed of such; and the stench caused by its first disturbance was such as to overpower almost the Chinese labourers themselves. It is clear that the sea water had not been able to destroy all the harmful stuff, and if it could not do so in comparatively deep water, *à fortiori* could not a few inches or even a foot or two of sea water, probably already fouled with organic refuse and so deprived of its purative power, do anything more than render innocuous a superficial inch or so of the area turned up each low tide; so that a few minutes work when the foreshore is again laid bare will suffice to expose soil saturated with poisonous matter. That the operations in question will when finished improve the sanitary state of Chefoo is unquestionable; the sickness caused by them while in progress is the price which must inevitably be paid for the ultimate benefit, as innumerable instances all over the world have established beyond cavil.

I have selected the following cases to describe in detail, for, as I shall afterwards point out, I erred when in my letter to the Consular body I described the fever as malarial. It is a non-malarial remittent fever, and has to be discriminated from typhoid fever, with which, I believe, it has hitherto been confounded; for it appears to be a common enough disease.

CASE NO. 1.—European; female; aged a little over 30.

Previous History.—She had malarial fever in Shanghai about 1884; has not had it since. Was several years in Newchwang before coming to Chefoo; had good health there. On 20th April 1896 she had a feverish attack, evening temperature 102°, with headache and diarrhœa. A mixture containing bismuth and antipyrin stopped both, so that next day she was quite well; and continued so until this attack.

Present Illness.—20th September.—She sent for me about 6 P.M., being "feverish." I found her complaining chiefly of severe pains in the head, "not headache, but sore head." An attack of diarrhœa, which had lasted three days, had just been checked by a dose of castor oil. Ordered her 4 grains of antifebrin, and 10 grains of quinine early next morning.

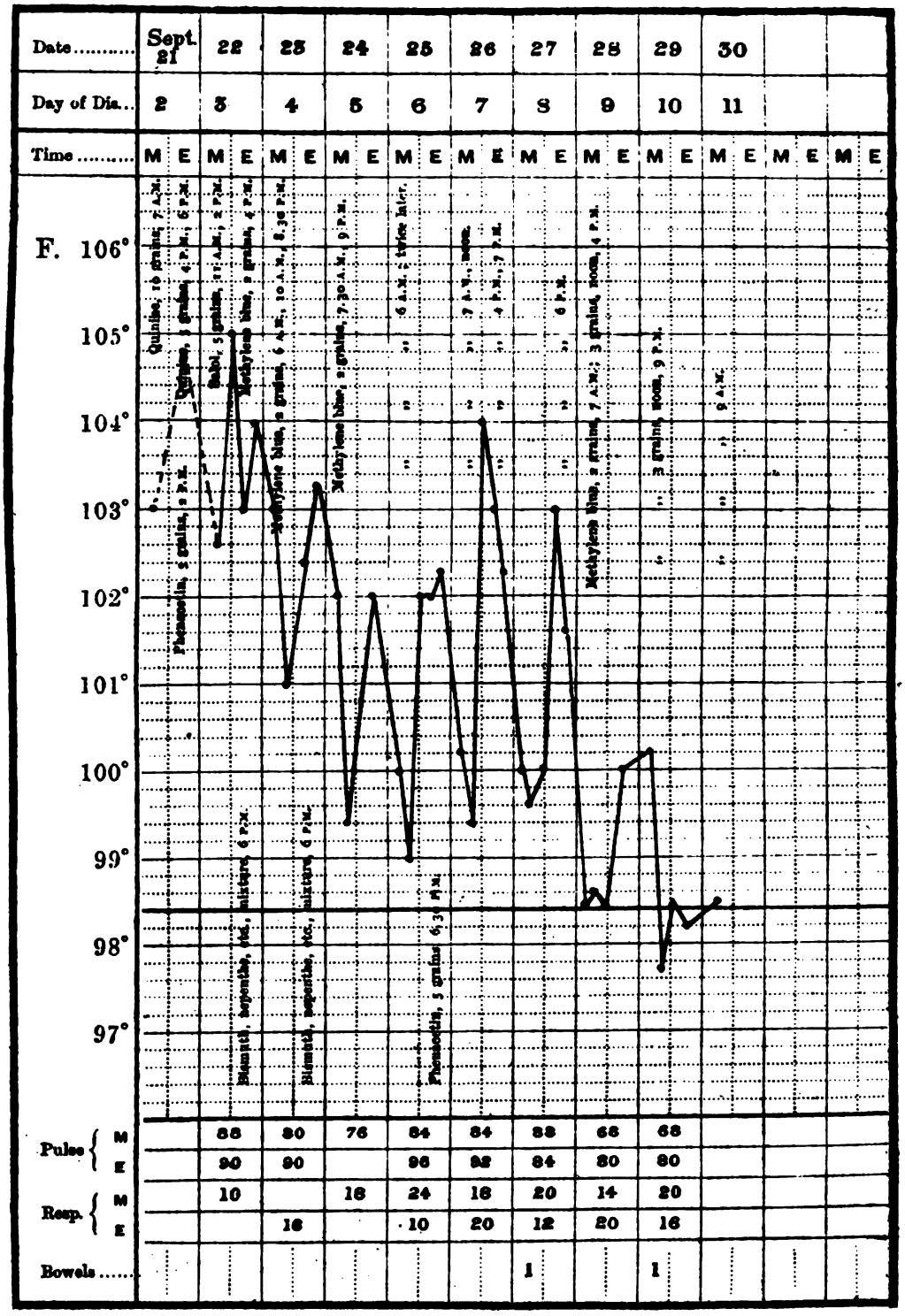
21st September.—5 grains of phenacetin were given at 2 P.M., to be followed by 5 grains of quinine every two hours from 4 P.M. (*N.B.*—To-day she was seen and treated by a medical friend of mine, I being laid up with fever.)

22nd September.—Pulse 80, regular, slow, fair size and tension; says she was "very hot from 3.30 to 6 A.M." Head, at 10 A.M., "very bad," vertex and forehead; bones sore. She vomits each dose of quinine as soon as taken. Epigastrium sore. No tenderness over liver or spleen; no enlargement of either. Bowels not open. No gurgling sensation in abdomen. No spots on the skin. Ordered 5 grains of salol every three hours from 11 A.M.

4 P.M.—I examined the blood, and found it swarming with the new parasites, to be subsequently described. I therefore substituted methylene blue, which in previous cases I had found to be useful in this fever, 2 grains every three hours.

6 P.M.—Vomiting still continues. As she could not retain the methylene blue, nor food, it was clearly necessary to suspend parasiticide treatment for the time, and attend to the state of

Chart No. 1.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98°
97°
Quinine, 10 grains, 7 A.M.
Phenacetin, 5 grains, 2 P.M.
Quinine, 5 grains, 6 P.M.
Quinine, 5 grains, 11 A.M.; 2 P.M.
Methylene blue, 2 grains, 4 P.M.
Bismuth, bromide, etc., mixture, 6 P.M.
Methylene blue, 2 grains, 6 A.M.; 10 A.M.; 2.30 P.M.
Bismuth, bromide, etc., mixture, 6 P.M.
Methylene blue, 2 grains, 7.30 A.M.; 9 P.M.
Phenacetin, 5 grains, 6.30 P.M.
6 A.M.; three later.
2 P.M.; noon.
4 P.M.; 7 P.M.
6 P.M.
Methylene blue, 2 grains, 7 A.M.; 3 grains, noon, 4 P.M.
3 grains, noon, 9 P.M.
9 A.M.
Pulse M 88 80 76 84 84 88 66 68
E 90 90 96 92 84 80 80
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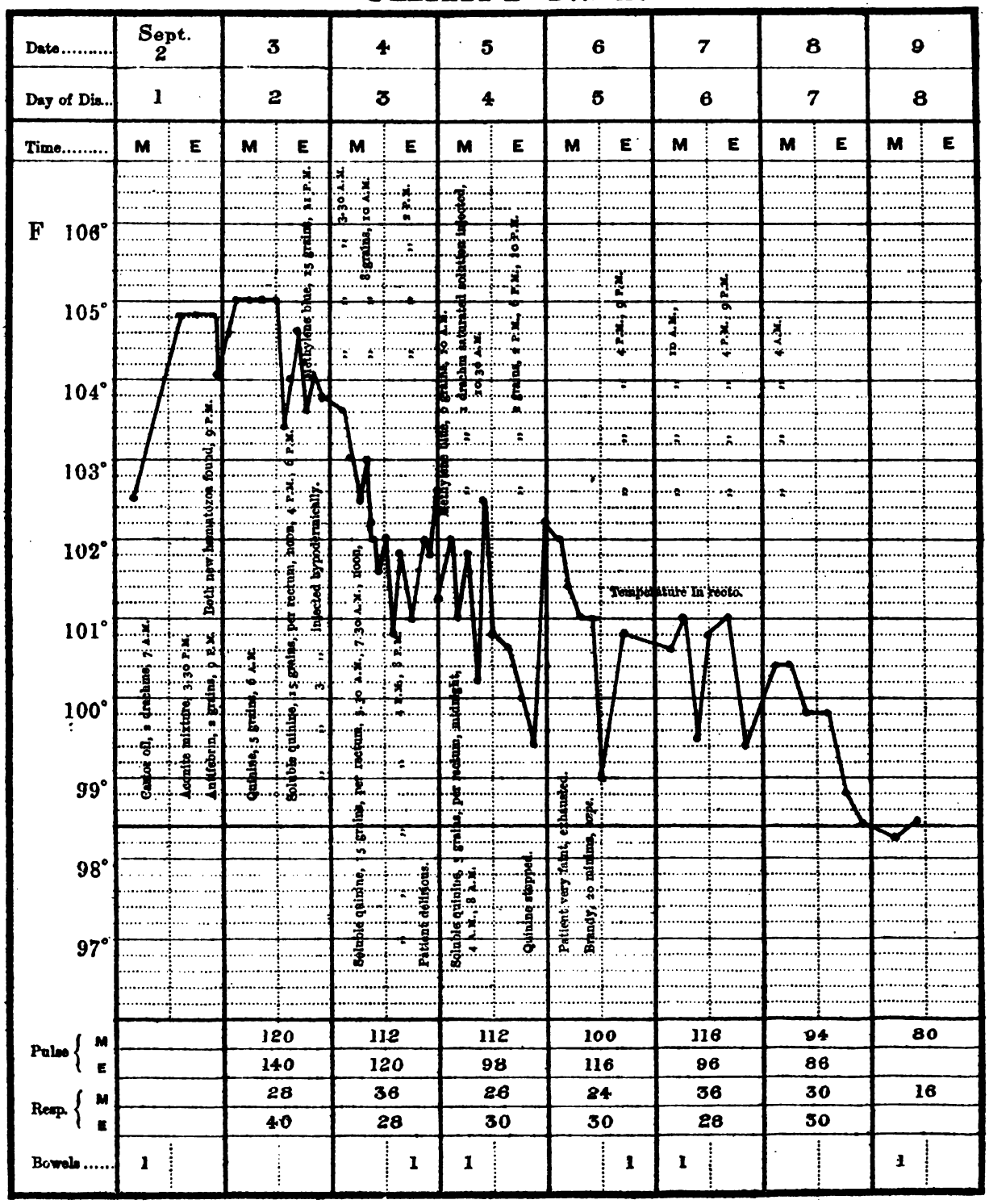
E 16 10 20 12 20 16
Bowels 1 1

CHART Nº 2.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Castor oil, 2 drachms, 7 A.M.
Aconite mixture, 3:30 P.M.
Antifebrin, 2 grains, 5 P.M.
Both new hæmatozoa found, 9 P.M.
Quinine, 5 grains, 6 A.M.
Soluble quinine, 15 grains, per rectum, hourly, 4, 6 P.M.
Methylene blue, 25 grains, 11 P.M.
3 injected hypodermically.
Soluble quinine, 5 grains, per rectum, 1.30 A.M., 7.30 A.M.; hourly, 4 P.M., 8 P.M.
Patient delirious.
Methylene blue, 5 grains, 10 A.M.
3 drachms mercurial solution injected, 10.30 A.M.
8 grains, 4 P.M., 10 P.M.
Soluble quinine, 5 grains, per rectum, midnight, 4 A.M., 8 P.M.
Quinine stopped.
Patient very faint, exhausted.
Brandy, 20 minims, 2 P.M.
Temperature in recto.
Pulse M 120 112 112 100 116 94 80
Pulse E 140 120 98 116 96 86
Resp. M 28 36 26 24 36 30 16
Resp. E 40 28 30 30 28 30
Bowels 1 1 1 1 1 1

the stomach; and as she stated that she "had not slept a wink since she was ill," I gave her this mixture:—

Schacht's solution of bismuth	3 drachms.
Nepenthe	½ „
Spirits of chloroform	2 „
Distilled water, to	6 ounces.

1 ounce every hour.

She took the whole of this.

23rd September, 9 A.M.—Patient has slept well; has now no nausea. Took a cachet of methylene blue at 6 A.M., vomited at 6.30 A.M.; the urine, however, is now a deep blue.

2 P.M.—She feels easy; is taking her food well. Took one cachet at 10 A.M., vomited at 11 A.M. Complains that the medicine made her throat very rough and uncomfortable.

6.30 P.M.—Suffering again from severe nausea, so that she refuses both food and medicine. Last night's mixture was again ordered, and all of it taken. At 8.30 P.M. she felt able to take a cachet, and the drug was retained till 9 P.M.

24th September.—Slept well; no nausea. Cachet at 7.30 A.M. retained, also one at 9 P.M.

25th September, 9 A.M.—Slept badly; head sore. Took and retained two cachets. Respiration very slow, with a long pause after each expiration.

5 P.M.—Complains of severe pains in the bones and head. Ordered 5 grains of phenacetin.

26th September, 10 A.M.—Complains of pains in the bones and of micturition being painful. Ordered 20 minims of spirits of nutmeg to be taken with each cachet.

5 P.M.—Micturition almost painless; there was no further complaint on this score, except once, when she was left without any spirits of nutmeg.

The subsequent history is one of progressive improvement, with no special incident, except obstinate constipation, which was overcome with difficulty. On 30th September, for the first time, she complained of pain in the right hypochondrium, which I found was due to the liver; firm digital pressure showed this to be tender all over, though not obviously enlarged.

6th October.—She has been free from fever since 29th September, but has regained very little strength, and is still excessively anæmic, for a reason which will be apparent enough later on.

9th October.—A sudden relapse occurred yesterday, temperature up to 104°, necessitating resumption of methylene blue.

CASE No. 2.—European; male; aged 8 years.

2nd September.—I was sent for at 7 A.M. to see this boy, who was said to be simply "feverish." I found that he had stuffed himself with grapes the previous evening, and I therefore ordered a dose of castor oil immediately. Though this operated, his temperature rose speedily, nearly to 105°, and I ordered, first, aconite, in frequently repeated minim doses, which is usually very effectual in reducing fever in children, if it be merely sympathetic; and, this proving useless, 2 grains of antifebrin, and also 5 grains of quinine to be given early next day. After ordering the latter, the advisability of examining the blood occurred to me, to search for malarial plasmodia, for as yet I had had no reason to suspect that I was dealing with a fever hitherto not discriminated. I found it swarming with the two new parasites to be described.

Next day, *3rd September*, I used quinine energetically. The morning dose, of 5 grains, having been vomited at once, I administered 15 grains of the soluble sulphate by the rectum every four hours, while giving pancreatised milk gruel by the mouth; both were retained. By evening, however, the boy's condition appeared critical in the extreme; his temperature kept persistently above 103° (in spite of 45 grains of quinine per rectum, and 3 grains given hypodermically, to a child of 8); he complained much of his head; his limbs and face muscles were constantly jerking and twitching, evidence of irritation of the brain cortex; and his blood was swarming with the parasites which I had recently discovered in a bad case of fever which had terminated fatally in my private hospital. At 11 P.M., therefore, I administered 15 grains of methylene blue, in aqueous solution, by the mouth—a dose which was repeated at 3.30 A.M. next day; both were vomited.

4th September.—The quinine was continued in the same large doses, 15 grains every four hours, by the rectum. He took also two 8-grain doses of methylene blue, but as each was vomited instantaneously their effect was *nil.* By the evening the boy was delirious, evidently from the quinine, as his temperature was lower; his pupils were widely dilated; he was very restless, deaf, his mouth dry, and he refused both food and liquids. He being clearly cinchonised to the fullest extent possible, almost dangerously so, I reduced the dose of quinine to 5 grains every four hours, and finally stopped it entirely; in spite of the large doses given, it had effected very little reduction of temperature, and its effect on the parasites was *nil.* The blood condition was somewhat improved, and as in a previous case (*vide* No. 4) I had had reason to attribute such improvement to methylene blue, I continued this during the day, giving an 8-grain dose at 10 A.M. and 2 P.M., which were retained.

5th September, 7.45 A.M.—Patient sleeping quietly on his side; occasional twitches of the muscles of the face, limbs, and trunk. A dose of methylene blue, 6 grains, given by the mouth, was vomited at once; given by the rectum, voided immediately; so at 10.30 A.M. I injected 1 drachm of a semi-saturated aqueous solution into the buttock; it caused no pain. A 2-grain dose, by the mouth, at 2 P.M. was retained, as were similar doses at 6 P.M. and 10 P.M.

9 P.M.—Pulse 100, slow, small; food and medicine taken well; sleeping, with occasional starts.

6th September, 1 to 2 A.M.—Boy very restless, picking nose.

7 A.M.—Very faint and exhausted; ordered brandy, in 20-minim doses, frequently. Condition of blood much improved. Stopped methylene blue till 4 P.M.

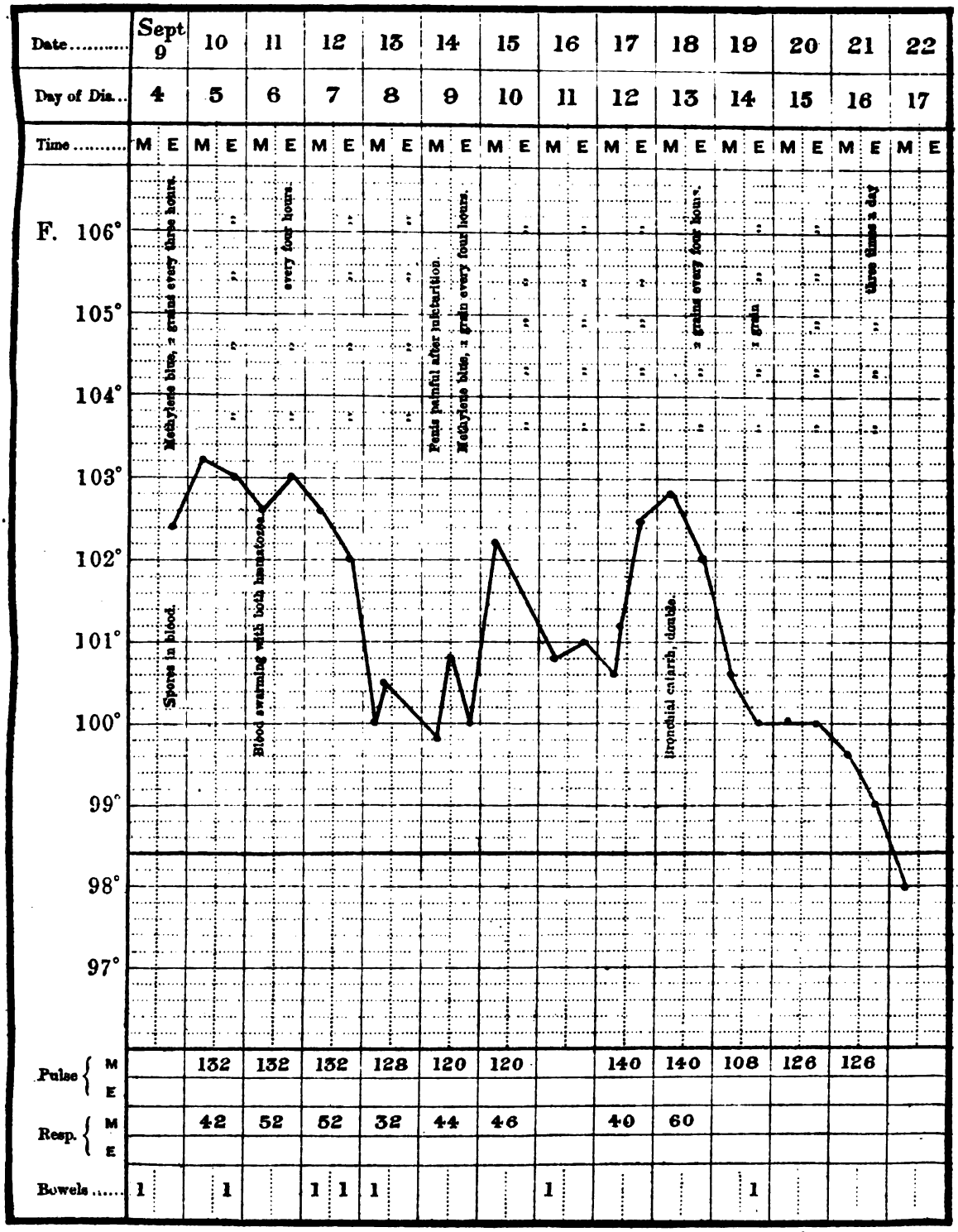
7th September.—Fair night, slept a good deal; no starts. Patient conscious and quite rational all day.

The child recovered without further incident and went for a sea trip with his father. His appetite became ravenous, and he regained strength fairly quickly.

CASE No. 3.—Male; aged 5½ years; child of European father, Japanese mother; a slight, rather delicate child, never had very good health.

9th September, 10 P.M.—Found the child with a temperature of 102°.4, complaining of pains in the head when questioned. He had been ill for three or four days, being "very hot" every night, but though languid and disinclined to eat he had made no complaint before. After examining the blood I ordered 2 grains of methylene blue every three hours.

CHART Nº 3.


Date
Sept 9
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13
14
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19
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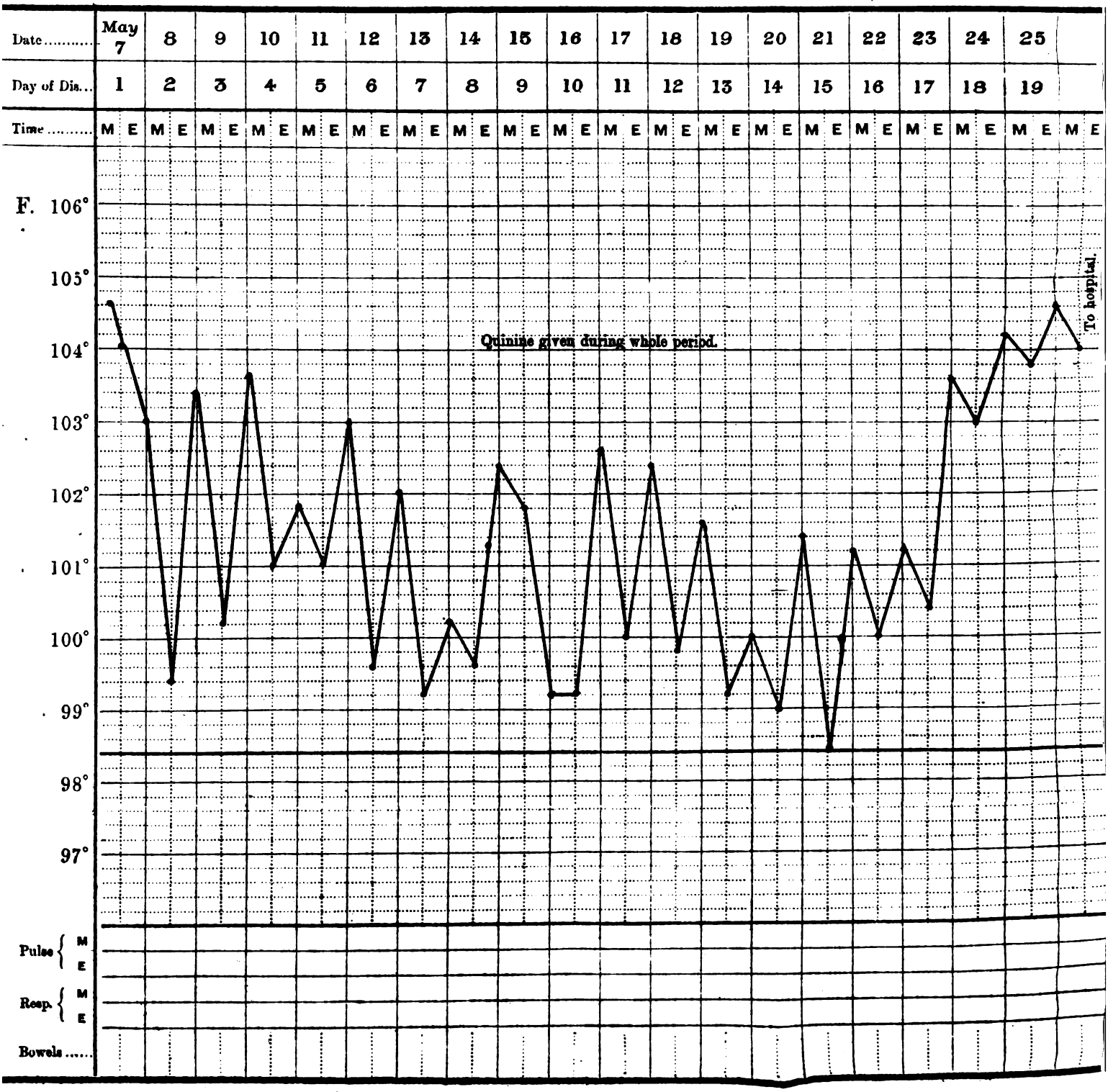
21
22
Day of Dis.
4
5
6
7
8
9
10
11
12
13
14
15
16
17
Time
M E
F. 106°
105°
104°
103°
102°
101°
100°
99°
98°
97°
Methylene blue, 1 grains every three hours.
Spores in blood.
every four hours.
Blood swarming with both hæmatozoa.
Penis painful after micturition.
Methylene blue, 1 grain every four hours.
1 grains every four hours.
1 grain
three times a day
Bronchial catarrh, dentes.
Pulse M
E
132 132 132 128 120 120 140 140 108 126 126
Resp. M
E
42 52 52 32 44 46 40 60
Bowels
1 1 1 1 1 1 1

Chart No. 4.


Date
May 7
8
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25
Day of Dis.
1
2
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6
7
8
9
10
11
12
13
14
15
16
17
18
19
Time
M E
F.
106°
105°
104°
103°
102°
101°
100°
99°
98°
97°
Quinine given during whole period.
To hospital.
Pulse { M E
Resp. { M E
Bowels

10*th September*.—Vomited his medicine once only.

11*th September*.—Liver and spleen not enlarged, no tenderness. The child lies very quietly, without stirring, for hours; breathing very rapid. No typhoid spots on the body; no diarrhœa.

14*th September*.—Boy now sleeps and eats well. Micturition is rather painful and the point of the penis is sore. His convalescence was delayed by an attack of bronchial catarrh, as shown in the chart, which yielded quickly to treatment; did not necessitate the suspension of the methylene blue.

5*th October*.—The child is still feeble and anæmic, but is gaining strength. When first seen, and the next day, his condition was very serious. He appeared utterly prostrate, lying on the bed quite apathetic, refusing both food and drink. The pulse was almost thready.

Note.—When I made my first visit, on the evening of 9th September, I had no means of preserving a specimen of blood for examination at home; I therefore pricked a finger with a needle and took the drop of blood on the inside of a watch-glass. It was quite dry by the time I had the requisites for examining it, and when liquefied by normal salt solution the only organised structures I could find were some five or six spores (*vide* Fig. 6, Plate III), which were vigorously alive, dancing about so that it was difficult to keep one under observation.

For Chart No. 4, interpolated among my own series of cases, I have to thank Dr. AMES, U.S. Navy, of the U.S.S. *Detroit;* it is that of a case of fever contracted at Woosung in May 1896. There were several such cases; one was sent to the Shanghai General Hospital, where, after some hesitation, it was diagnosed as typhoid fever. In this case also, which was sent to Yokohama Hospital, where it ended fatally, the same diagnosis was ultimately made. In each case the diagnosis of typhoid appears to have been made by exclusion, the disease certainly not being any other known one. All the cases, however, differed from ordinary typhoid in that (1) there was no diarrhœa; (2) there were never any roseolæ on the abdomen or elsewhere; (3) no gurgling in the iliac fossæ; (4) no cerebral symptoms, delirium and the like. The one point of likeness was the long duration of the fever, the course of which, however, as this chart plainly shows, is not that of typhoid, which does not remit so markedly and persistently, as much during the first as the last week. However, I only venture to claim this as a case of the non-malarial remittent, which I believe to be associated with a certain new parasite, on these grounds. Dr. AMES has now on board the *Detroit* a case of fever in all respects identical with the one charted here; he very kindly put up three specimens of this man's fresh blood for me, and, about one hour later, I had the satisfaction of demonstrating to him, as well as to another U.S. naval colleague, the parasite before referred to.

I regard the chart as of especial value, as indicating the natural course of the fever when treated expectantly, the rational way of treating a disease for which no specific remedy is known.

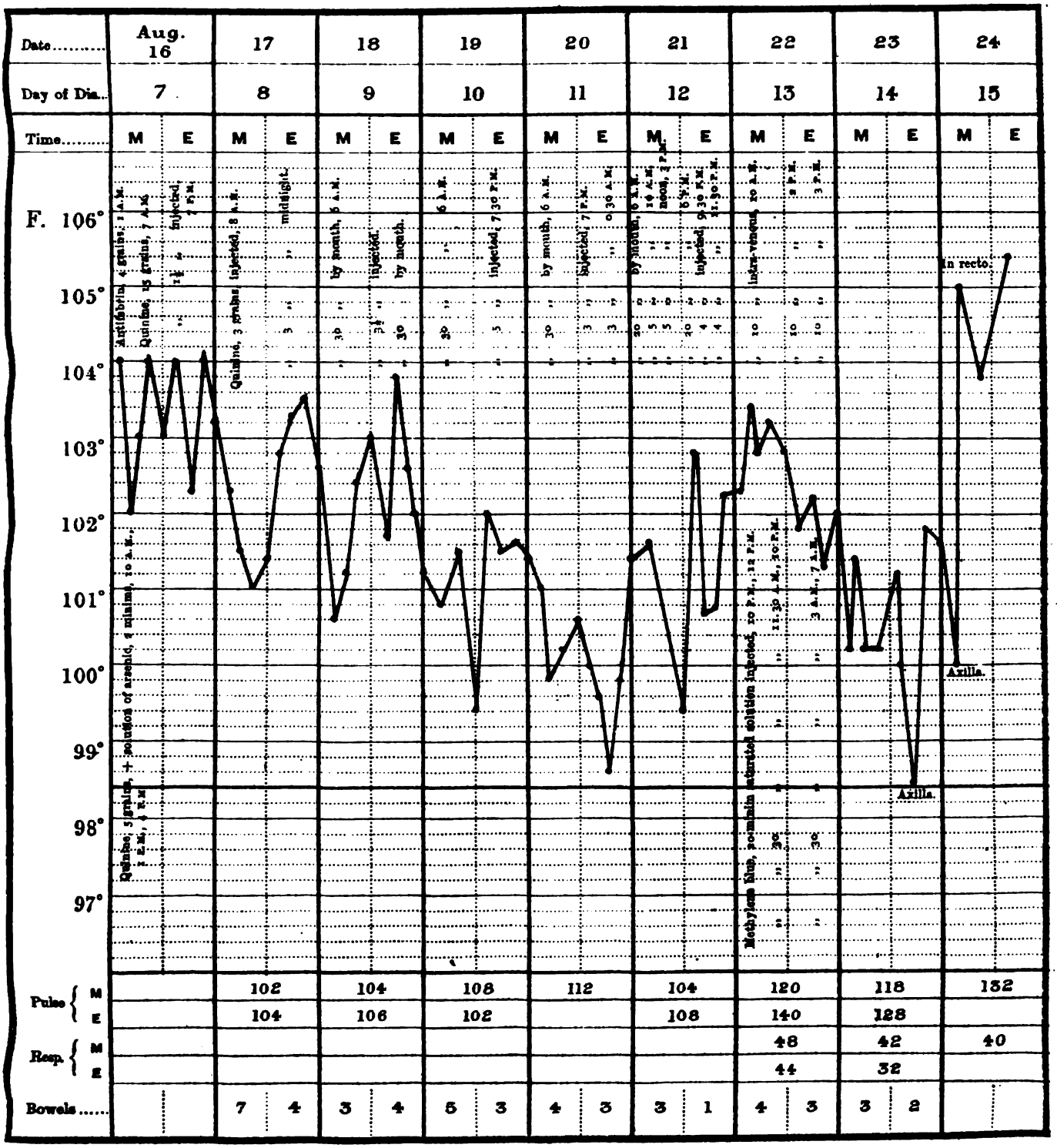
CASE No. 4.—I have put this case last, though it was actually my first, because it was very complex, the non-malarial remittent fever, to which the fatal issue was due, being mixed with a malignant form of malarial quotidian. As I wish to confine myself solely to the former disease, not to extend my paper to an excessive length I omit any detailed account of the symp-

toms, the salient ones being shown in the chart (No. 5). The patient was the commander of a coast steamer; he had been severely ill for six days when I saw him at 1 A.M. on 16th August; during this period his temperature had rarely been below 104°. His blood on 16th August was found to contain in profusion the pigmented plasmodia of the malignant quotidian "summer-autumn" fever of the Italian observers (*vide* Plate I), as well as a small number of the plasmodia of tertian fever. The latter disappeared after the first day; I have not figured them, as they are so well known. The pigmented plasmodia disappeared speedily under the vigorous use of quinine, per oram, hypodermically, and intra-venous; and at first the patient's general condition improved accordingly, so that the prospect of recovery appeared hopeful. As, however, these parasites were killed off, I observed from day to day increasing numbers of intra-corpuscular bodies of a kind entirely unknown to me, and not mentioned in any works concerned with malarial fevers, with which I am fairly well furnished. At the same time the blood, instead of becoming more and more watery, and therefore more readily diffusible between cover-glasses, as is usually the case, got so sticky and mucilage-like in consistence that ultimately a drop just remained as such, hardly spreading out at all. I had therefore to change my technique in examining fresh blood, and to adopt the method mentioned in LEE'S *Vade Mecum* (page 349), of adding to the blood a drop of 0.75 per cent. salt solution, tinged with methyl violet, a liquid which "in no wise affects the form of the elements." On the first occasion of so doing I had the good fortune to discover the adult forms of the parasites whose immature forms had been puzzling me for some time. A description of these is given later on. Seeing that quinine was entirely without effect on these parasites, as had been clearly enough shown clinically already, and as I proved by experiment with the parasites under the microscope, I cast about for some drug which might prove lethal to them. Further good fortune led me to select methylene blue, a drug which has been much lauded by sundry foreign observers for its effect on certain forms of malaria, especially in children.* I began its use on 22nd August, and I never again saw one of the above referred to extra-corpuscular parasites alive in this patient's blood, though it always had dead ones in large numbers. Unhappily, it was too late for the methylene blue to successfully exert its beneficent influence; the patient was already beginning to fail, and though a temporary effect was produced, as is shown by the chart, it proved evanescent, death occurring three days after the discovery of the nature of the materies morbi.

In this case the curative power of quinine in genuine malarial fever, due to its lethal influence on the plasmodia, was as clearly evident, both clinically and by actual ocular inspection through the microscope, as was its total powerlessness to deal with the parasites associated with the complicating remittent fever. The non-malarial character of this is even more clearly proved by Case No. 2, in which quinine was pushed to the utmost possible extent, with the result that its toxic effect began to be manifest in the patient, not at all in the parasites. Cases Nos. 1 and 3 were treated entirely by methylene blue; and it is worthy of note that the female patient was very intolerant even of the small doses of quinine given at the commencement, though at Newchwang she had often taken the drug, and had never before vomited it.

* *Lancet*, 1894, 1895, *passim*.

CHART Nº 5.


Date
Aug. 16
17
18
19
20
21
22
23
24
Day of Dis.
7
8
9
10
11
12
13
14
15
Time
M
E
F. 106°
105°
104°
103°
102°
101°
100°
99°
98°
97°
Antifebrin, 4 grains, 7 A.M.
Quinine, 15 grains, 7 A.M.
injected, 1 P.M.
Quinine, 5 grains, + solution of arsenic, 4 minims, 10 A.M.
Quinine, 5 grains, 1 P.M.
Quinine, 3 grains injected, 8 A.M.
midnight
by mouth, 6 A.M.
injected, 7 P.M.
by mouth, 6 A.M.
injected, 7.30 P.M.
by mouth, 6 A.M.
injected, 7 P.M.
0.30 A.M.
by mouth, 6 A.M.
10 A.M.
noon, 3 P.M.
6 P.M.
injected, 9.30 P.M.
11.30 P.M.
intra-venous, 10 A.M.
8 P.M.
3 P.M.
Methylene blue, 20 minims arterial solution injected, 10 P.M., 12 P.M.
11.30 A.M., 3.0 P.M.
3 A.M., 7 A.M.
In recto.
Axilla.
Axilla.
Pulse M
102
104
108
112
104
120
118
132
Pulse E
104
106
102
108
140
128
Resp. M
48
42
40
Resp. E
44
32
Bowels
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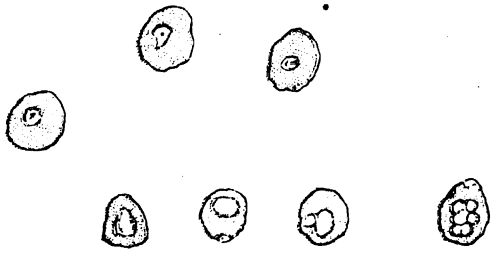


Fig. 1.

Plate I.

Zeiss, ⅟₁₂ oil immersion.

oc. 4.

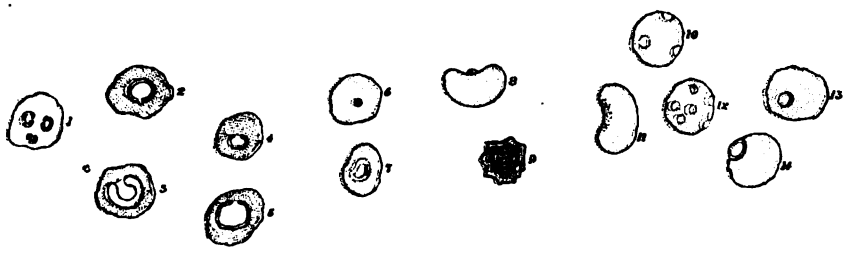
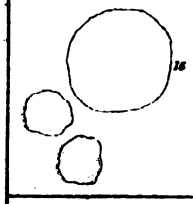


Fig. 2.



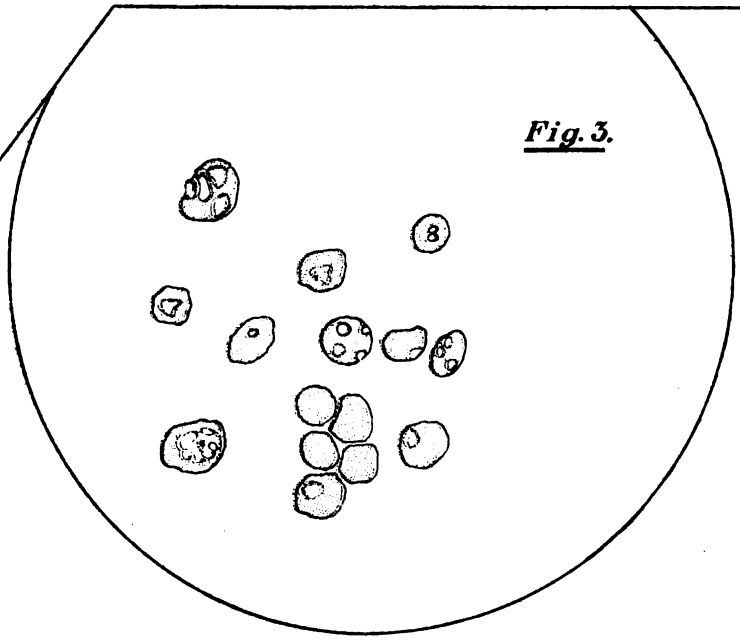


Fig. 3.

Portion of one field.

In this fever, unlike genuine malaria, the onset is not associated with chills or rigors; nor are the daily exacerbations. The temperature rises without any subjective sensation, and I have several times seen patients who were astonished to find that their languor, head pains, etc., were associated with a temperature of 102° or more. The spleen is not enlarged nor tender; nor is the liver, as a rule; occasionally the latter is congested, and so slightly enlarged and tender. There is a tendency to bronchial catarrh. Constipation is the rule; but in several cases, especially sundry mild ones which I thought it unnecessary to describe individually, intestinal catarrh preceded the onset of fever.

Typhoid fever is the only other disease with which this remittent fever is likely to be confounded, and the differential diagnosis has already been discussed. Owing to the long duration of both when left to run their natural course, they are extremely likely to be confounded; and I believe that this is the explanation of the often referred to anomalous character of typhoid fever in the East. I have never seen a case of so-called typho-malarial fever, the existence of which is generally questioned, though stoutly maintained by several men of extensive experience. Possibly it is only this non-malarial remittent.

In the *Medical Annual* for 1896, page 318, is an account by Dr. MITRA of Indian remittent fever which fits these cases with remarkable accuracy, except in this single point, that I have not observed the headache, or rather the head pains, to be any index to the temperature; it depends rather upon the life phases of the parasites (a point to which I shall return later), for though the temperature is no doubt similarly dependent, the relationship appears to be more simple in the former than in the latter case.

Pathology.—The two new parasites to be immediately described having been first observed in the blood of Case No. 4, I have depicted in Plate I specimens of the various parasites found in that case. Fig. 1 shows various stages in the development of the pigmented quotidian plasmodium of the so-called "summer-autumn" fever of the Italian observers; this parasite was present in great profusion, as is shown by Fig. 3, which represents a portion, about one-third, of one field of the microscope, drawn as accurately as possible, quite without selection.

This form rapidly decreased in number, while at the same time infested red corpuscles, such as are depicted in Fig. 2, became more and more abundant. The most striking of these novel appearances was that of a brilliant, double-contoured crescent, varying in size from a barely perceptible dot up to two-thirds the size of a red corpuscle (1, 2, 3, 4, 5, Fig. 2). When focussed down upon, the crescent became clearly defined, while the outline of the red corpuscle was still indistinct, as if it were external to the latter; this I believe to be only an optical appearance, due to the high refrangibility of the parasite. No less abundant were bodies such as No. 7 in Fig. 2. By careful focussing the dull greyish-white body inside the corpuscle is seen to be surrounded by a double-contoured crescent, which has the same red colour as the mass of the corpuscle; this appearance I believe to be produced when the parasite is lying nearer that side of the corpuscle which is remote from the eye.

The double-contoured circular bodies represented in Nos. 6, 13, and 14 appear to be lying on the corpuscles, external to them, as is clearly shown by No. 8, Fig. 2.

The reniform body, No. 11, and the one with angular projections, No. 9, must be compared with *A*, Fig. 1, Plate III, and *A* 3, Fig. 2, Plate III, in the description of which they will be again referred to.

Plate II represents organisms which I first saw on the evening of 20th August, when for the first time I diluted a drop of fresh blood with about an equal volume of normal salt solution. A couple of flagellated bodies in active movement first caught my eye; I have not represented them in the plate, as they are very familiar objects. Then an object in active internal movement (Fig. 1) came into view. The greater part of it was occupied by two very clearly defined tentacle-like objects, each bent on itself, its free end swollen into a knob, and attached at the other end to an ill-defined reddish-brown body; above, a portion of a third similar object was visible, lying in a plane at right angles to that occupied by the other two. These two were in constant motion, in the direction of the arrows, so as to narrow the enclosed space, and then in the opposite direction widening it, like a coiled spring. As I watched it the corpuscle rolled over a little (*β*, enlarged, for clearness), allowing the free end of the posterior tentacle to be seen through the space bounded by the other two. I watched this object for half an hour, hoping to see it escape from the corpuscle, but was then compelled to leave it. I have never since seen a similar intra-corpuscular object; but *a*, Fig. 2, represents a very similar body which I found free in a permanent preparation of blood from the same patient, stained with magenta and mounted in glycerine. I once also saw a similar three-armed body in a drop of blood from a man with a mild attack of this fever; it moved very rapidly across the field of the microscope, and I was unable to find it again.

When, after two hours absence, I again returned to the microscope I found the field occupied by some 20 large objects, such as I have tried to represent in Fig. 3. They were in such continuous and active movement that I found it impossible to finish a sketch of any one; could only catch an occasional posture, and complete the figure from memory: hence the incompleteness of some of the figures, *e.g.*, 13, 7, 8, 9. I had just drawn 2 when a rim suddenly appeared round it (3); this rim widened, obviously by its edge being more folded in (4), and then narrowed again. It was not till I saw something like No. 8, and then No. 5, that I suddenly realised that I was watching medusæ at play in a drop of blood; and incredible as it seems, and for a moment seemed to me, my incredulity could not last long in face of what I had before my eyes. I saw now that the rim, now present now absent, widening and narrowing, was the edge of the necto-calyx, sometimes curled in sometimes relaxed, and that the conical object in the centre of No. 5, which itself moved from side to side, was the manubrium. As I watched one medusa turn over I caught a glimpse through the swimming-bell of a trifid object (13), which was suddenly projected, dividing the space into three parts, and as suddenly withdrawn. No. 11 represents a view of the dorsum, with four blunt knobs on it. I have never again seen this sight. Next day the blood contained still a large number of free medusæ, but they were all motionless, apparently dead; No. 6 represents the under aspect of such a one, the swimming-bell's orifice contracted to a linear opening. 12, 14, and 15 were drawn from

Fig. 1.

Fig. 2.

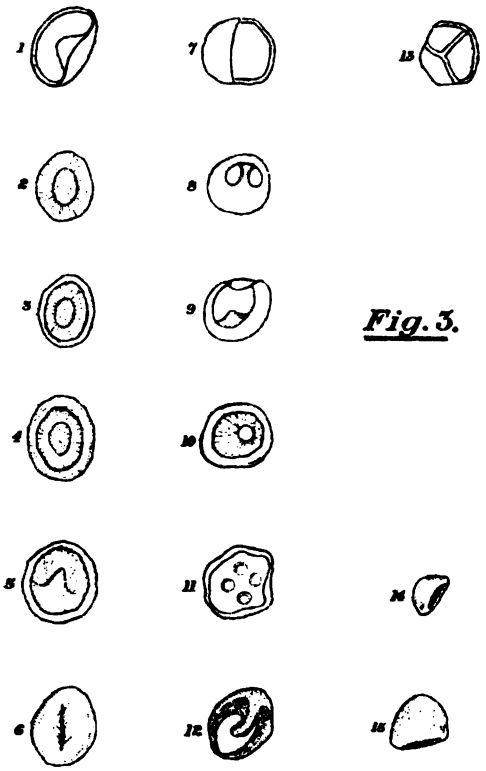


Fig. 3.

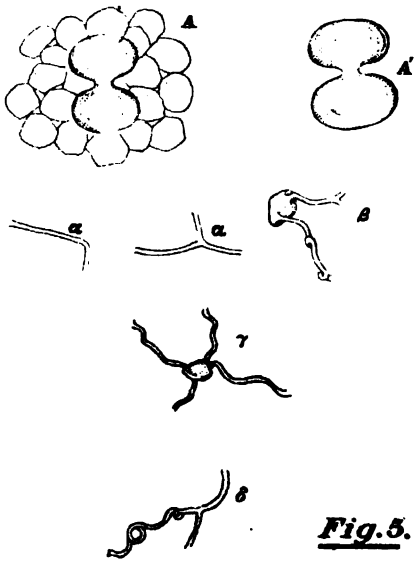


Fig. 5.

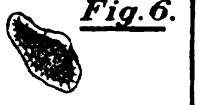


Fig. 6.

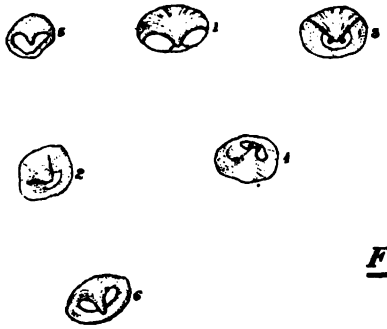


Fig. 4.

Plate II.

Zeiss, ⅛ oil immersion,

oc 4.

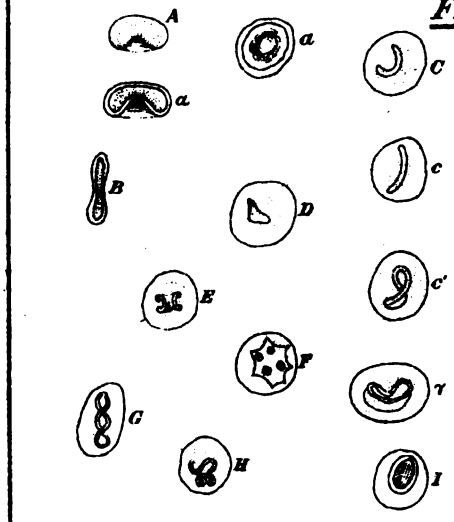


Fig. 1.

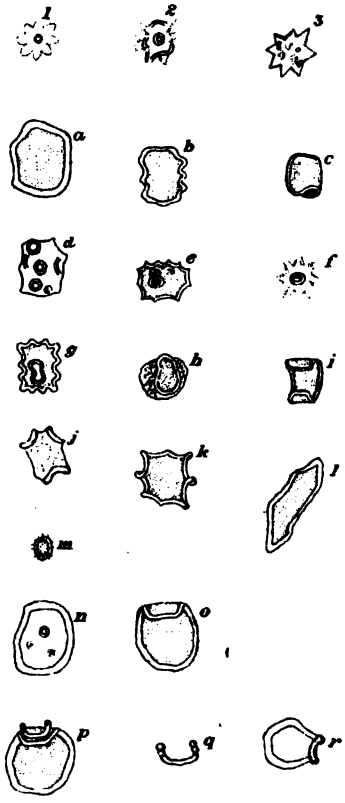


Fig. 2.

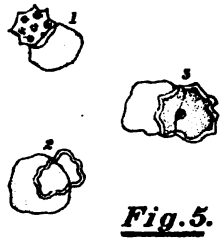


Fig. 5.

Fig. 6.

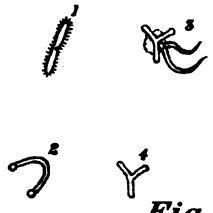


Fig. 7.

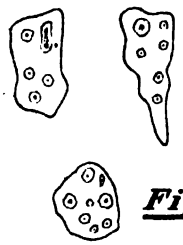


Fig. 8.

Fig. 3.

Fig. 4.

Fig. 9.

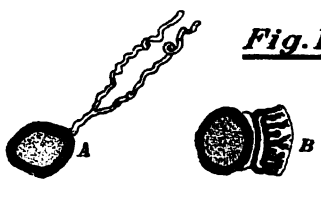


Fig. 10.

Plate III.

Zeiss, ⅟₁₂ oil immersion, oc. 4.

specimens free in the blood of Case No. 2 when it was impregnated with methylene blue; they were not quite dead, but their movements were very slow and languid.

Fig. 4 represents an earlier stage of these *Medusæ sanguinis hominis*, as I propose to call them provisionally. They are drawn on too large a scale proportionately with the free medusæ of Fig. 3, which were three or four times the size of a red corpuscle, whereas these are about the same size.

In No. 1, Fig. 4, is seen the manubrium, with a fine line (? tentacle) running from near its apex, on each side, to the bounding surface; No. 2 shows three such; in No. 3 these lines had disappeared and two bright spherules taken their places; No. 4 shows the same spherules, only a good deal larger. (*N.B.*—Nos. 1–4 were consecutive phases of the same object.) The manubrium is often to be seen stretching itself out, contracting, and its apex wandering from side to side.

In Fig. 2 *b*, *c*, and *d* represent various aspects of dead free medusæ in a preparation of blood from Case No. 4, prepared by running a drop of 1 per cent. solution of osmic acid under the cover-glass of a preparation of fresh blood; *d* shows the sexfid edge of a contracted nectocalyx.

In Fig. 5 are depicted various objects from a cover-glass preparation of fresh blood fixed with absolute alcohol and stained with 1 per cent. eosin, and methylene blue; all these objects lay in a sort of thick bed of red corpuscles. *A* shows a dumb-bell shaped object stained blue: the optical section of the upper half shows a fairly thick body wall; in the lower half no structure was perceptible, only a few indistinct wavy lines. By carefully focussing it was made clear that each half was really spherical, as *A'*. Many of the dumb-bells had broken across, and so there were several single blue-stained spheres; the body shown at 15, Fig. 2, Plate I, is doubtless one of these, which has not taken the blue stain. The above-mentioned bank of red corpuscles was full of bright bluish bodies like α, many of them branching; two might be seen taking origin from a rounded, granular, blue-stained body (β), or sometimes four (γ). The whole preparation was studded with curiously coiled and contorted objects like δ, very brilliant, unstained, with a great likeness to a piece of normal elastic fibre, only more coiled. (*Vide* Plate III, Fig. 10.)

Fig. 6 is a reproduction from a microphotograph taken by Mr. H. BRISTOW, H.B.M. Consul, Tientsin, giving the inferior aspect of the medusa and showing the crenated edge of the swimming-bell (Case No. 2).

Plate III represents various forms of another parasite, which I invariably found associated with the *Medusa sanguinis hominis*.

If a drop of blood suitably diluted be very quickly put under the microscope, the appearances shown in Fig. 1 are seen. One of the most common is a reniform figure (*A*, *see also* No. 11, Fig. 2, Plate I), which changes to *a* when the corpuscle turns over; careful focussing shows the corpuscle to be occupied by a double-contoured organism (*a*). A fiddle-shaped body *(B)* is also very common. *C* shows what appears to be a linear parasite, an impression which is strengthened when it is seen to straighten itself out *(c)* and lash backwards and forwards;

continued observation, however, shows that this double-contoured line is only a free edge of the contained parasite, which in the instance depicted successively assumed the forms *C*, *c*, *c'*, and *γ*. The contained parasite often appears to have a bluish tinge, probably only a contrast effect of the red body of the corpuscle with the colourless space from which the parasite has displaced the hæmoglobin. Some, however, of the corpuscles have a reddish-brown tint, darker than the red of a normal corpuscle, in correspondence with the colour of the contained parasite.

In a very few seconds the parasites begin to escape from the corpuscles, a process depicted in Fig. 5.

Fig. 2 shows a variety of the forms to be found free in a fresh blood preparation which has been put up for a few minutes and sealed. They are all alike in these points: (1) that the organism is invested by a clear, structureless, double-contoured membrane, any part of which appears capable of being protruded, as an angular projection or a more slender object, like a snail's "horn," by the living substance beneath; (2) each has an orifice on the ventral surface, surrounded by a flexible, very mobile lip, which when extended in death is shaped very much like a Hodge's pessary (*vide h*, Fig. 2); in the living organism this flexible lip is in constant activity, dilating, contracting, and extending itself in various directions; *p* shows the anterior end of this lip, which suddenly appeared from below, in front of the curved-over tip of an organism like *o* in the same figure, while I was watching it. As the creature turned over a little two small brilliant balls *(q)* became apparent on it, and then it was again retracted; this appearance I have often seen.

A 1, 2, 3, Fig. 2, illustrate the appearances sometimes presented by one of the commonest forms of this parasite when focussed down upon from above. At first a brilliant point is alone seen, the body being hazy and indistinct; this becomes a circle (1), which then becomes double-contoured, while several brilliant, double-contoured, continually writhing lines appear (2), these being the edges of such of the angular projections as chance to be in focus; finally, several of these projections are clearly defined, the creature being now seen to be somewhat star shaped. The angular projections, the double-contoured margins of which are never all exactly in focus at once, are continually changing their relative size and direction; *f* shows the under surface, with a circular aperture, surrounded by the same double-contoured lip; it being in focus, the body of the creature is obscured.

a, *b*, *k*, *h*, and *n* are flattened forms, some with straight some with wavy edges; *c* shows one of these curled over, as it is when inside the red corpuscle (*vide b*, Fig. 1); *i* has its two ends curled over. *d* and *e* show the dorsal and ventral surfaces of a flattened form, the surface of which is studded with a few blunt knobs, the optical section of one of which has the appearance of a double-contoured circle; the lip shown on the ventral surface was seen to be in ceaseless motion, now stretching out to the size of that of *h* (which was a dead specimen from an osmic acid preparation), now contracting to the shape and size depicted. *r* represents a very common form, the up-standing part when in focus (so that the body is dim) being strangely brilliant, and constantly undergoing slight changes in shape, so that it flickers in a curious and very beautiful manner, producing an appearance much like that of a gas-jet illumination with a light breeze playing over it; the mouth lies just below the rim, and this flicker is probably due to the movements of the lip.

Fig. 3 represents a much less common form, which I have only seen on about a dozen occasions; it is much more worm-like. 1 to 6 represent the changes undergone by one specimen in about 15 minutes. An orifice was very apparent at one end, in 1 as a mere black dot, in 5 as a much larger gaping cavity; a similar opening was less distinctly seen at the other end (6). The body was very distinctly striated longitudinally.

Fig. 4 represents a phenomenon which I have only seen once, apparently two of the organisms shown in Fig. 3 conjugating.

Fig. 6 represents the nucleated spores, which are sometimes to be seen in countless numbers. Sometimes three are connected in a string; usually they are free, and vary a good deal in size; they dance about with great activity, and I have several times thought that I could detect cilia on them. There is usually also a profusion of small bright particles without nuclei, which when carefully focussed show a distinct disc, usually more polygonal than circular; they also dance about, very much like whirligig beetles on a pond. As I was watching the organism shown in 3, Fig. 5, emerging from its corpuscle, I saw it emit one of these small non-nucleated bodies from its under surface at the moment that its orifice (seen indistinctly through its substance) got outside the corpuscle; this object danced about the field for a few seconds and then vanished from the field.

Fig. 7 represents various objects seen in fresh blood preparations. 1 is a jointed body, apparently fringed with hairs or cilia, which I watched once for half an hour; it was poking about, wandering backwards and forwards between the same two or three corpuscles, in a most purposeful manner. 4 was a brilliant, double-contoured body, the three arms of which extended in three dimensions; it was dancing about with great vigour, as was the curved body (2), apparently of similar material. 3, in the same figure, shows a similar three-limbed bright object, with two long appendages, all in languid motion, which were protruding from a small, contracted, star-like organism (*vide A*, Fig. 2) in a preparation which had been put up some 12 hours and been left in a room at a temperature of about 65° F., so that the organisms were all nearly motionless, or quite so.

Fig. 9 represents objects seen in a recent preparation of fresh blood, into which a drop of 1 per cent. osmic acid solution has been run. This causes a most violent commotion; when it subsides, the various forms of the parasites are all gone, and only small dark spheres are to be seen, together with many of the objects depicted. The osmic acid apparently causes the organisms to undergo violent contraction, while some of them vomit their internal organs, which become fixed thus.

Fig. 10 is from a cover-glass preparation of fresh blood, allowed to dry (about 1 minute), fixed by osmic acid vapour and stained with a drop of a concentrated alcoholic solution of methyl violet. This is able to penetrate the integument, which I have found no aqueous stain capable of doing.

The convoluted organ protruded from *A* has not taken the stain. The comb-like body projecting from *B*, connected with it by a sort of membrane, impossible to reproduce in the sketch, has stained.

Fig. 8 represents phagocytes from a patient whose blood was saturated with methylene blue. The blood was diluted with normal salt solution only, without any colouring matter, so that the blue-stained spores with which the phagocytes are crowded must have got stained in the blood stream. This probably indicates the mode of action of methylene blue.

A most notable fact about these parasites is the enormous number which the blood may contain without producing any obvious symptoms, sometimes none at all,—a point in which they differ *toto cœlo* from the *Medusa sanguinis hominis*.

I have found the medusa in four adults and in four children; in every case there was pyrexia, which only ceased when they had completely disappeared from the blood. The other parasite I found in 21 adults and in 10 children, or, excluding those who also had the medusa, in 17 adults and six children. Of these, four adults only and two children had fever, lasting in each case from two to four days; it was never high, 103° being the maximum in the adult cases, nor were the other symptoms severe. Three of the infected adults had never had malarial fever, and four of the children; of these three adults, however, one only could be said to be in vigorous health, and his infection was recent, as I examined his blood late in August and found it then quite normal.

In one household, situated on the west side of Yentai Hill, all the members of the family—father, mother, and five children—were infected, including even an infant of 12 months, not yet weaned; one of these children was Case No. 2.

As regards *treatment*, the influence of methylene blue on the *Medusa sanguinis hominis* has been sufficiently indicated in the cases narrated; it almost at once killed the parasites free in the blood, and prevented their reproduction. From sundry *Lancet* references I learned that it has been given in doses up to 9 grammes (=135 grains, about) per diem, and I accordingly began giving it in large doses; but I soon found that smaller ones were equally efficacious, and much more likely to be retained. Children take it more readily than they will quinine, in a sweetened mixture; for adults it is best given in cachets. The main inconvenience is the painful micturition which commonly results, but this is generally preventable by combining it with spirits of nutmeg.

Case No. 1 took 45 grains, of which 33 were retained; 12 being vomited, though sometimes after an hour, diminishes the total to about 38 or 40 grains.

Case No. 2 took and retained 66 grains, and Case No. 3, 80, of which 60 were retained; as both these were children, it may be said that they took at least three times as much as did the adult.

The best indication as to the dose is to be gathered from the urine; this should be maintained of a deep indigo colour, and it seems to me that the dose which will do this is an adequate one.

The other parasite is very much more resistant than is the medusa, as these experiments show.

No. 1.—Prepared three specimens of fresh blood, diluted each with an equal volume of—

Result after 4 Hours.

(1.) 0.75 per cent. salt solution	Swarming with free parasites, very lively.
(2.) 0.75 per cent. salt solution + salicin, 1 per 1,000	
(3.) 0.75 per cent. salt solution + salicin, 1 per 10,000	

No. 2:—

(1.) 0.75 per cent. salt solution	Swarming with free parasites, very lively.
(2.) 0.75 per cent. salt solution + neutral sulphate of quinine, 1 per 1,000 .	
(3.) 0.75 per cent. salt solution + methylene blue, 1 per 1,000	

No difference was perceptible between any one specimen and another as regards the liveliness of the parasites.

Result, 2.45 P.M.

No. 3.—At 2 P.M.:—

(1.) 0.75 per cent. salt solution	Swarming with free parasites, very lively.
(2.) 0.75 per cent. salt solution + Fowler's solution of arsenic, 1 per 10,000 . .	Abundance of intra-cellular parasites; very few free ones, these languid.
(3.) 0.75 per cent. salt solution + eucalyptus oil, 1 per 10,000	Abundance of intra-cellular parasites; very few free ones, fairly lively.
(4.) 0.75 per cent. salt solution + peppermint oil, 1 per 10,000	Abundance of free parasites, less lively than in (1.).

Nos. 2 and 3 looked as if the blood had just been drawn and rapidly put up.

3.15 P.M.—(2.) Unchanged; (3.) and (4.) unchanged, but the parasites just as lively as in control specimen.

5.30 P.M.—(2.), (3.), and (4.). Parasites as lively in all three as in (1.), and nearly all free.

Result after 1½ Hours.

No. 4:—

(1.) 0.75 per cent. salt solution	Swarming with free parasites.
(2.) 0.75 per cent. salt solution + mercuric chloride, 1 per 1,000 . . .	None such; numerous motionless spherical bodies.
(3.) 0.75 per cent. salt solution + mercuric chloride, 1 per 10,000 . . .	Swarming with free parasites, perhaps a little languid.

Result after 3 Hours.

No. 5:—

(1.) 0.75 per cent. salt solution	Abundance of free parasites in all, very lively; no difference in the preparations.
(2.) 0.75 per cent. salt solution + carbolic acid, 1 per 10,000	
(3.) 0.75 per cent. salt solution + salicylic acid, 1 per 10,000	

Corrosive sublimate is thus seen to be the only drug which killed the free parasite, and it only when used to an extent impossible therapeutically. I hoped, however, to find that mercury might be a remedy, and as I had among my clientele a youth who had been slightly mercurialised for over a year, and had also been as much exposed to infection by these parasites as anybody in Chefoo, I examined his blood, hoping that one disease had protected him from another; however, I found his blood swarming with the smaller parasites as thickly as in any non-mercurialised person.

As to the clinical significance of these parasites in the blood, I do not yet know enough about them to speak with any confidence. However, putting aside those Chefoo residents whose infection I believe to be recent, so that the ultimate effect producible by the parasites, if any, is not yet apparent, I have learnt to look confidently for these organisms in individuals who have any history of past malarial attacks; so far eight such persons have come under my notice, and in each I have found the parasite, always in the greatest profusion. I am therefore much disposed to regard them as the cause of the profound anæmia and cachexia of malarial subjects. Supposing that the creatures live in the blood corpuscles of their host without very much impeding the due performance of their function as oxygen carriers, it is quite evident that they must both increase his food requirement and throw increased work upon his excretory organs; and if his digestive and excreting organs fail to respond to these increased demands, his nutrition must suffer, and the blood will be the tissue first affected.

Why their presence is sometimes associated with fever, though more often not, is a point to be investigated; but it is tempting to speculate upon the connexion which naturally suggests itself between them and the periodic character which past malaria impresses upon many subsequent ailments.

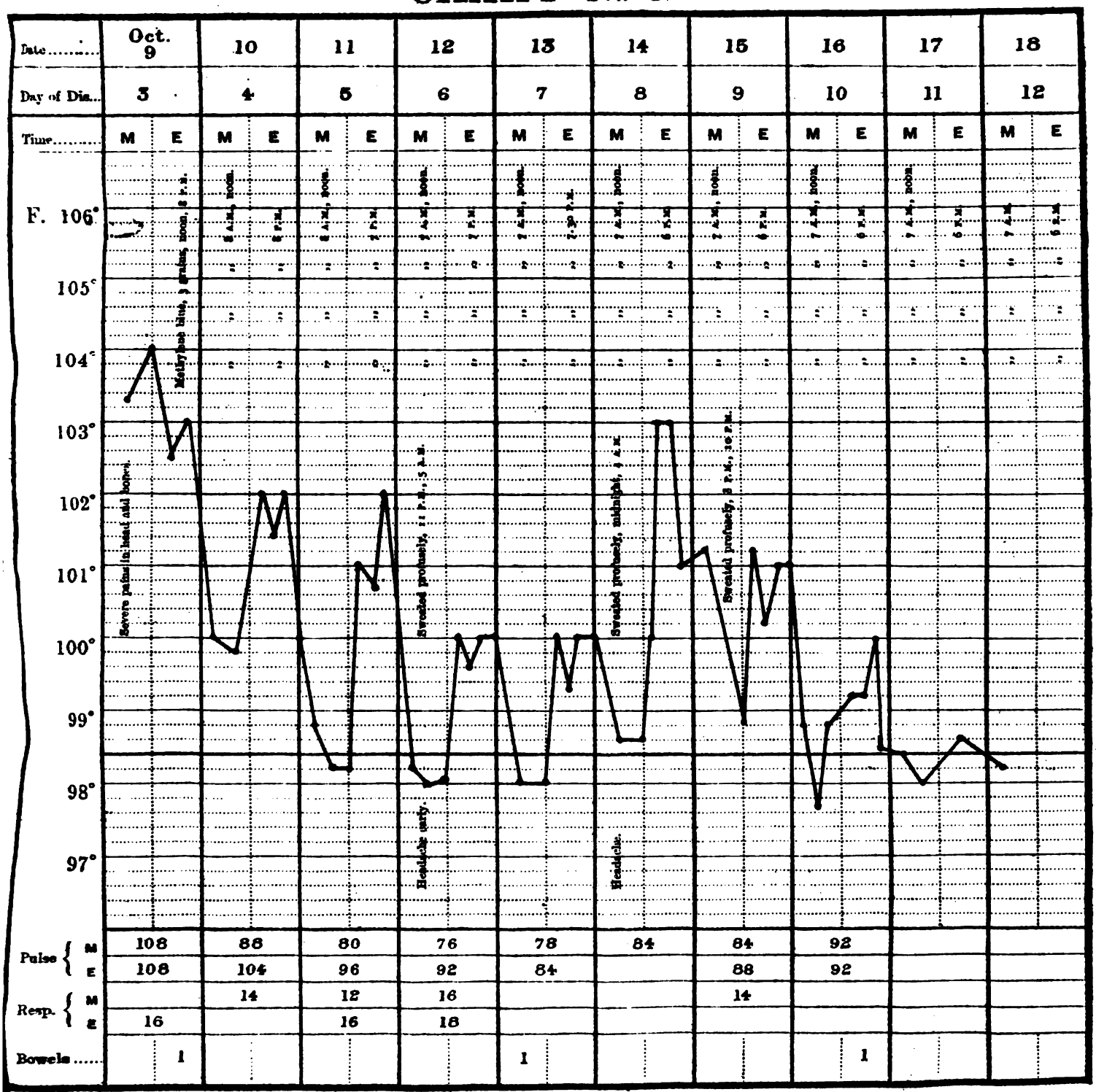
Case No. 1 has just recovered from a relapse, the study of which has yielded a good deal of further information about the second parasite. The salient symptoms are shown in the accompanying chart. Pains in the bones and head were the chief subjective symptom, and they rather suggested dengue, but, apart from the fact that this is entirely a tropical disease, the absence of any rash and the course of the temperature suffice to exclude this.

On 8th October the blood was found to be swarming with the parasite.

On 12th October a specimen of blood was taken at 6 P.M., *i.e.*, just after the first afternoon rise and fall of temperature. A large number of red corpuscles were found to contain nucleated ova (*vide A*, Fig. 2, Plate IV); by 9.30 P.M. these had all grown to the extent shown in *B* of the same figure; in these the double contour and the shape of the nearly mature parasites were clearly seen.

On 13th October a specimen of blood drawn at 6 P.M. was found swarming with free parasites, mostly of the flattened leaf-like variety. By 9.30 P.M. a large proportion of these had totally changed their appearance, become clear, globular bodies, darker than before, and of a somewhat greenish-brown colour. On casual inspection they would almost certainly be taken for normal corpuscles; on carefully focussing, however, each was seen to be covered with very

CHART Nº 6.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Severe pains in head old boys.
Methylene blue, 3 grains, noon, 8 p.m.
Syncipital profusely, 11 p.m., 3 a.m.
Headache early.
Syncipital profusely, midnight, 4 a.m.
Headache.
Syncipital profusely, 2 p.m., 10 p.m.
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Pulse E 108 104 96 92 84 88 92
Resp. M 14 12 16 14
Resp. E 16 16 16
Bowels 1 1 1

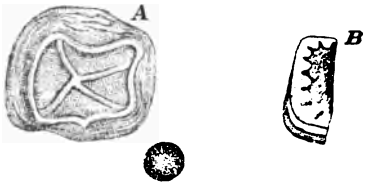


Fig. 1.

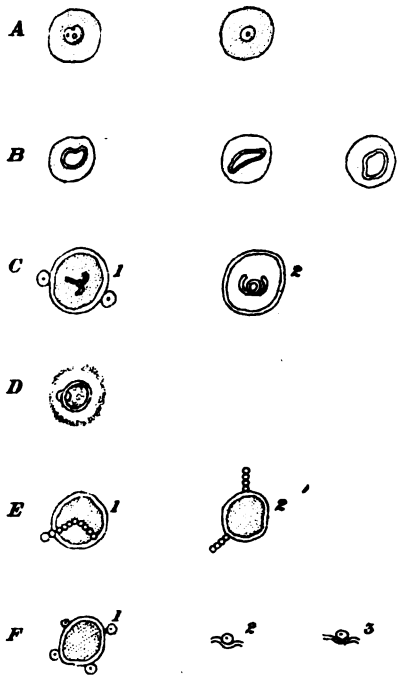


Fig. 2.

Plate IV.

Zeiss, 1/12 oil immersion,

oc. 4.

minute shimmering cilia. In some (*C* 1) a dark, anchor-shaped central structure was discernible, the shape changing from time to time; and in some specimens this structure was clearly seen to be tubular (*C* 2). Many of these bodies had one or more large nucleated ova attached to them (*C, F*), some of which seemed to be attached by a minute stalk (*F* 3). In many instances a long string of ova, in active backward and forward movement, projected from the surface, and could be followed deep into the interior (*E* 1, 2). Occasionally two such strings of ova were projected from one of the spherical bodies; each of the ova in these strings appeared as a whitish spherule, non-nucleated, until exactly focussed, when it became a minute black speck, circular or polygonal. The larger ova, which seemed to be budding from the exterior surface, were much less lively in their movements and were distinctly nucleated.

Here and there a parasite which had not assumed the clear, globular form was found to contain ova; in one such instance (*D*), the orifice happening to be uppermost, a contained ovum was watched for some time, moving about in a large central cavity, now clearly seen through the mouth now indistinctly through the body wall, until at length it escaped through the mouth and floated away.

Fig. 1, Plate IV, shows an exquisite specimen of the *Medusa sanguinis hominis*, which I found on carefully looking over some of the preparations made of the blood from Case No. 4—preparations which until recently I had not had leisure to examine minutely. It is shaped much like a Tam O'Shanter cap, and a quadrifid body is distinctly seen inside. Its dimensions are much larger than I previously stated, from memory, being at least 16 times the size of the red corpuscle placed beside it for comparison. *B* shows the scalloped edge of the necto-calyx of another specimen. In another preparation, unfortunately spoilt by over-exposure to osmic acid vapour, the medusæ are very numerous, and being darkly stained can be readily distinguished by the naked eye.

The extraordinary likeness of the commonest form of the above-described parasite to a crenated blood corpuscle is no doubt the reason why it has so long escaped observation; but that the medusæ should also have done so can only be because no microscopist has chanced to examine the blood in a fever case at the time when they were present, seeing that they are of enormous size and that their appearance is absolutely characteristic.

DR. JAMES H. McCARTNEY'S REPORT ON THE HEALTH OF CHUNGKING

For the Half-year ended 30th September 1896.

THE health of the foreign residents during the past six months has been good. It is probably true that a great deal of the freedom from illness was due to the fact that a large proportion of the ladies and children spent the summer in the mountains near Chungking. No port on the river has mountains so near which afford such a thoroughness of change as Chungking. The height of these mountains varies from 1,200 feet to 2,500 feet, and within three days' journey of Chungking we have in Chin-fo-shan a mountain over 7,000 feet high, which furnishes an atmosphere equal to any in Japan. The thermometer never goes above 60° F., and heavy woollens must be worn on the hottest day.

During these six months no foreign resident has been confined to his room for more than two or three days.

The principal ailments were bowel troubles, due more to the indiscretion of the persons than to the climate.

During the period reported on four foreign children were born, the mothers all, with one exception, making uninterrupted recoveries, without the slightest rise of temperature. The case in question progressed favourably until the night of the 10th day, when the patient became greatly frightened during a thunderstorm, and the next morning active inflammation of both breasts came on, which would not yield to any therapeutic remedies, but rapidly went on to suppuration. After thorough incision and drainage, this case also made a good recovery.

July and August were hotter than the corresponding months of 1895. From the 1st to the 21st August there was not one day of rain, which is unusual for this time of the year, and those who wish that we could see the sun more frequently in Chungking wished that we might not see it for a while. The frequent rains during the summer months in Chungking, while causing a moist atmosphere, serve a good purpose in cooling the air, and thus render the summers more endurable than they otherwise would be. They not only cool the air but flood the streets, washing out filth which otherwise would never be removed. The city is so situated and so drained that within a few minutes after the rain has ceased the streets are dry; there is no chance for standing water. There is only one place in the city where stagnant water can be found, and that is in front of the Confucian temple—an artificial lake several hundred feet in diameter.

During the summer Chungking was visited by two or three windstorms of more than usual severity; they did but slight damage.

During July and August the mean temperature was very high—81°.9 and 84°.8 F. respectively. This was due to the extreme dryness, as no rain fell for nearly a month, which is exceptional at this time of year. September, however, furnished the greatest rainfall since the Customs has been opened.

Below is a classified list of the diseases which have afflicted foreigners who have come to my notice since the port was opened in 1891 and necessitated confinement to bed for more than a week.

Congestion of liver	2	
Dysentery	6	(2 died)
Remittent fever	4	
Intermittent fever	7	
Scarlet fever	3	
Measles	7	
Eczema	1	
Cholera morbus	4	
Asiatic cholera	3	(1 died)
Eclampsia	1	(died)

The number of births during the past five years has been 16. Children born in Chungking seem to thrive exceptionally well, while those who have come here in infancy have an especially hard time in acclimating.

During the past six months I have had under treatment a middle-aged man for cystitis. The disease (in a mild form) had existed some time before he came under my care. For over one month all the ordinary remedies, together with dieting, were tried without much effect. 5-grain doses of boracic acid three times a day were subsequently given, with immediate and marked effect. The patient has made steady improvement, and the dose has been increased to 10 grains three times a day. This one case has proved to me the great value of boracic acid internally in the treatment of cystitis.

Malaria.—This we have in all its forms, especially remittent fever, which generally is very prevalent during the spring, summer, and autumn months.

The mortality among the natives is very high, but among foreigners only a very few cases of fever have come to my notice during the past five years.

Out of many thousand fever cases among the Chinese I have not (up to date) met with any enlargement of the spleen, which has so frequently been reported in other ports on the Lower Yangtze.

During the six months nothing in the way of an epidemic has visited the natives.

The foreign residents are rapidly becoming better housed than they have been in the past, and the outlook for the improvement of the sanitary condition is better than ever before. When the members of the foreign community all get into proper foreign houses, in place of the low, damp native houses surrounded by high walls, they will have less cause for complaint of the weather and the state of their health.

The position of the Japanese Concession is all that could be desired from a sanitary standpoint; its position offers ready access for perfect drainage, within easy reach of the hills in the rear. No port on the river, with the exception of Chinkiang, affords better advantages in this direction.

The source of the water supply is as good, if not better, than any port on the river.

During the six months two new Consulates—French and Japanese—have been opened, both of which are well located from a sanitary point, with the exception that they are native buildings, and in consequence not provided with proper drains. The French compound is narrow and somewhat cramped, and the building is too low for foreign occupation. The Japanese occupy a large spacious compound, but the buildings are not well lighted, and consequently not conducive to good health.

The English Consulate is situated in a very poor part of the city from a hygienic standpoint: the compound is narrow, surrounded by high walls, poorly ventilated, and badly lighted.

Goitre cured with Inunction of Red Oxide of Mercury.—The patient, a middle-aged woman from the country, distant about 100 miles, came to the hospital with a tremendous goitre of several years growth.

The tumour, on account of its size, greatly inconvenienced her and caused great difficulty in breathing. I neglected to take its measurement at the time, but it is one of the largest I have ever seen. The woman consented to remain in the hospital for one month to see what could be done for her in that time.

Night and morning red oxide of mercury ointment was thoroughly rubbed into the tumour by a native assistant and the woman kept in the sun until the ointment had penetrated the skin. This practice was always followed by much pain or smarting over the surface which had been rubbed, sometimes almost unbearable, but the patient was willing to endure almost anything in order to be cured. At the end of the first month's treatment she had so much improved, there was no difficulty in breathing and the swelling was considerably reduced, that she decided to remain another month. From this time onwards steady decrease in the size was noticeable every few days. At the end of two months a very small tumour, about the size of a hen's egg, was left. The patient's health was greatly improved; but on account of pressing family duties, no amount of coaxing could persuade her to stop longer.

This is the only case of goitre which has presented itself for treatment in the six years that I have been in Chungking, which means that it is very rare in these regions.

Amputation of the entire Penis, together with Two-thirds of the Scrotum.—The patient, about 45 years of age, single; epithelioma of penis and scrotum. The operation was that devised by PEARCE GOULD and described by him in the *Lancet*, description of which is also given in TREVES' *Operative Surgery*, vol. ii, p. 658. In this case the scrotum was also involved, and I could not well follow out the procedure recommended in his operation. The protruding growth was removed by a circular incision, which included the anterior diseased surface of the scrotum, after which the operation was finished as recommended by Dr. GOULD. The healthy

testicles were pushed up into the abdomen and the remaining portion of scrotum doubled over on itself and its edges stitched in apposition. An elastic catheter was retained in the bladder for the first 48 hours. The scrotal wound healed by first intention, and the deeper one by granulation. The patient had no rise of temperature after the second day, and had complete control over the bladder from the first. The parts were completely healed, and the patient left the hospital within 30 days.

Resection of the Hip, with Recovery of Motion and Use of Leg.—The patient, a lad about 12 years of age, greatly emaciated and anæmic, presented himself with hip-joint disease in the third stage. A large abscess over the joint was opened and drained and the boy put on cod-liver oil and tonics, but no improvement took place in a month's treatment of this kind. I decided that the only chance for the boy was a resection. Louenbeck's operation was done, and the section was made below the trochanter major. The limb was put up in a fracture-box and extension applied. On account of the great debility of the patient a bed-sore formed within the first few days, which greatly complicated the case. Nevertheless, with careful nursing the little fellow pulled through and was able to walk with crutches within three months.

The result was all that could be expected from such an operation—about 1½ inch shortening of the leg.

Intercapsular Fracture of the Neck of the Femur.—The patient, an opium-smoker, over 50 years of age, pedlar by occupation, while passing along the street, was buried under a falling wall. When he was got out it was found that his leg was broken, and he was brought to the hospital.

The ordinary long side splint was applied, but on account of the ignorance and depraved condition of the patient he would not let it alone. Every morning on making the rounds I would find the splint loosened and the leg in the same position that I found him in. Every imaginable means was tried in order to guard his interfering with the splint. In spite of tying his hands he would manage to loosen himself, and I would find him the next morning in the same condition.

In desperation, and not caring very much what the result might be, I put his leg into a fracture-box and applied extension. The result was quite a surprise: he recovered with good use of his leg and with very little shortening.

Sarcoma of Abdominal Walls.—The patient, a man 62 years of age, tailor, opium-smoker. He first noticed a small lump near the navel several years ago, but it gave him no pain. The growth increased, although slowly, until the end of last year, when it took on active growth and commenced to give him a great deal of pain and discomfort.

Upon the advice of a native friend he came to Chungking for treatment. I wanted him to break off opium, and, after a month's proper tonic treatment, to have the growth removed. He would not hear of this and returned home. From this time the growth developed faster and gave him great pain. One month later it had grown one-third larger, so he returned to Chungking and requested me to remove it; this I did after he had given up opium. The

operation was easily done without the loss of very much blood, and the old man made a rapid recovery. The tumour weighed about 2½ lb., and presented the appearance displayed in the accompanying plate.

I am indebted to Mr. W. STEBBINS, Tidesurveyor, for the following meteorological abstract:—

METEOROLOGICAL TABLE, April to September 1896.

MONTH.	BAROMETER.		THERMOMETER.					RAINFALL.	
	Highest.	Lowest.	Dry Bulb.	Wet Bulb.	Maximum.	Minimum.	Mean.	No. of Days on which Rain fell.	Quantity.
	Inches.	*Inches.*	*° F.*	*° F.*	*° F.*	*° F.*	*° F.*		*Inches.*
April	29.68	28.86	94	83	94	58	69.8	16	3.37
May	29.77	29.02	90	81	93	60	72.8	13	6.03
June	29.50	28.94	94	83	96	70	80.9	13	7.47
July	29.34	28.90	98	89	99	69	81.9	14	9.08
August	29.44	29.05	100	85	102	69	84.8	9	9.83
September	29.55	29.10	79	77	82	65	72.1	24	10.92

DR. JOHN D. THOMSON'S REPORT ON THE HEALTH OF HANKOW

For the Year ended 30th September 1896.

GENERAL.

THE period under consideration has been remarkable for the irregular and prolonged distribution in time of certain diseases (enteric fever and small-pox), and for the prevalence in the native city of two severe epidemics at one and the same time (small-pox and typhus fever), as well as for the mortality among foreigners from these two last-named diseases. During the past summer, too, cholera has been more prevalent than usual, carried over, no doubt, from last year when it came following in the wake of disbanded soldiers and in the lines of traffic up river.

CHOLERA.

Cholera was responsible for the deaths of no fewer than six foreign adults during the months of August and September. None of these six were actually residents in the Concession. One, a missionary, died at Hsiao-kan, about 30 miles from Hankow, the body being brought here for burial. Another missionary came in from up country, was seized with cholera a few days after his arrival in Hankow, and died within 10 hours after the seizure. A third came from Mang-an-shan, a day's journey from Hankow; arrived in a collapsed state, struggled through the collapse stage, only to succumb to the stage of secondary fever (cholera typhoid). Two others were from H.B.M.S. *Firebrand*, then at Hankow. One was on the sick list suffering from diarrhœa on arrival in port, and two days later, while in hospital, he suddenly developed acute cholera, which carried him off in about 12 hours. The other was probably infected while on leave, possibly in some Chinese restaurant bordering on the Concession. The sixth death from cholera took place in Wuchang.

Of these fatal cases, I personally attended to two, the second and the third, while I saw another some time before death took place. In addition, I attended to four cases of cholera that recovered, as well as to a good many cases of choleraic diarrhœa (cholerine). Of the four that recovered, two were attacked in the same house in which one of the above fatal cases was first seen; one of these cases was very severe. A third was from the gun-boat, and the fourth was from one of the river steamers. This last patient, after struggling through a very prolonged collapse stage—kept alive, as it seemed, by repeated saline injections, at one time into a vein, at another time into the loose cellular tissue (hypodermoclysis),—suffered severely in the subsequent stage (cholera typhoid). On the fifth day of illness he passed a large quantity of blood by the rectum. Luckily, he did not see the stool, and was not alarmed by

what he did not know. An enema of chloride of calcium solution was at once administered, while smaller doses, along with digitalis and ergot, were given by the mouth. Next day patient's mind began to wander. For a few days his mental condition got worse, while physically he improved. There was no return of the hæmorrhage, his pulse improved, and he began to urinate freely. By the end of a week his mental condition also began to improve, and by the end of another week he was quite all right. A red raised rash came out all over his body, and was followed by fine desquamation of the cuticle. A similar rash and desquamation I observed in another patient, during convalescence from a very severe attack of cholera. I do not know whether to attribute this rash to a poison developed in the true course of the disease, to the saline ingredients used, to effete matters uneliminated, to absorption of secondary poison from the bowels, or to causes acting through the nervous system.

Small-pox and Typhus Fever.

Passing now from cholera to the other epidemic diseases—small-pox and typhus fever,—it must, I think, be rare, even in China, to have epidemics of two such diseases raging in the same city at one and the same time. Numbers, I am told, while convalescing from the one were attacked by, and succumbed to, the other. The mortality among foreigners from small-pox is quite exceptional, while typhus, so far as I am aware, has never been known to attack foreigners here before.

A. *Small-pox.*—In December one fatal case of small-pox (hæmorrhagic variety)—in a foreign child aged 4 years—was reported from Wu-tzŭ-miao, in Hankow city. The child had never been vaccinated. In April, May, and June there were three fatal cases of small-pox in the Concession. All were hæmorrhagic—one the variety known as "purpura variolosa," and the other two as "variola hæmorrhagica pustulosa." All three were connected with the out-door staff of the Customs; each had been vaccinated in infancy. Vaccination marks were very faint in two, not seen in the third. None of the three had ever been revaccinated.

(*a.*) The first case—"purpura variolosa"—was that of a young married woman. It began with severe headache, backache, vomiting, and high fever. The vomiting was very persistent, and by the third day hæmorrhages appeared. Profuse flooding set in. Petechiæ and large ecchymoses made their appearance here and there over the surface of the body. No white was visible in the eyes. Dark purple clots bulged out the conjunctivæ close up to the margins of the corneæ, so that the eyelids could not close. There were hæmorrhages in the tongue, tonsils, palate, and uvula. Black blood oozed from the gums and tongue, mingled with thick, slimy saliva, and dribbled continuously from the mouth. Blood was passed by the bowel, and probably also from the bladder, though, mixed with the other discharges, this could not be separately distinguished. By the close of the third day after the hæmorrhagic symptoms developed, the eyelids, the lips, the tongue, and the roof of the mouth were almost black; the fœtor of the breath and the smell from the surface of the body generally were particularly sickly, heavy, and oppressive. A little tumultuous action of the heart, a slight clouding of the intellect, and then death quietly closed the scene before the opening of the fourth day of the hæmorrhage and the sixth of the illness.

(*b.*) The second case—a married woman of over 50 years of age, living in the same terrace as the first—took ill about 12 days after the first was removed to hospital. The initial symptoms were also marked: fever was high; headache, backache, and vomiting were severe. Soon ecchymoses, like large bruises, appeared on the thighs and legs, also, to less extent, on the upper extremities and trunk, while the rash also began to show. The skin over the face, neck, and chest rose *en masse*, and some days later, when the vesicular stage was at its height, the face, neck, and thorax were completely encased as in a mask and cuirass. The hands and feet were also completely covered, while on the abdomen and thighs the vesicles had run together into clumps, leaving here and there some free skin, where at places subcutaneous hæmorrhages could be seen shining through. Hæmorrhages now began to appear in the fully developed pocks on the lower extremities, and also here and there over the rest of the body. The nostrils were completely obstructed; breathing was laboured, and rendered more painful by constant hawking efforts to get rid of tenacious mucus from the throat. Up till the 11th day the patient's strength seemed to be well maintained, when, rather suddenly, præcordial distress and tumultuous action of the heart came on and threatened life. The first attack passed off, to be followed however by others. Profuse tarry and grumous diarrhœa set in, and the patient rapidly sank, and died on the evening of the 12th day of the disease.

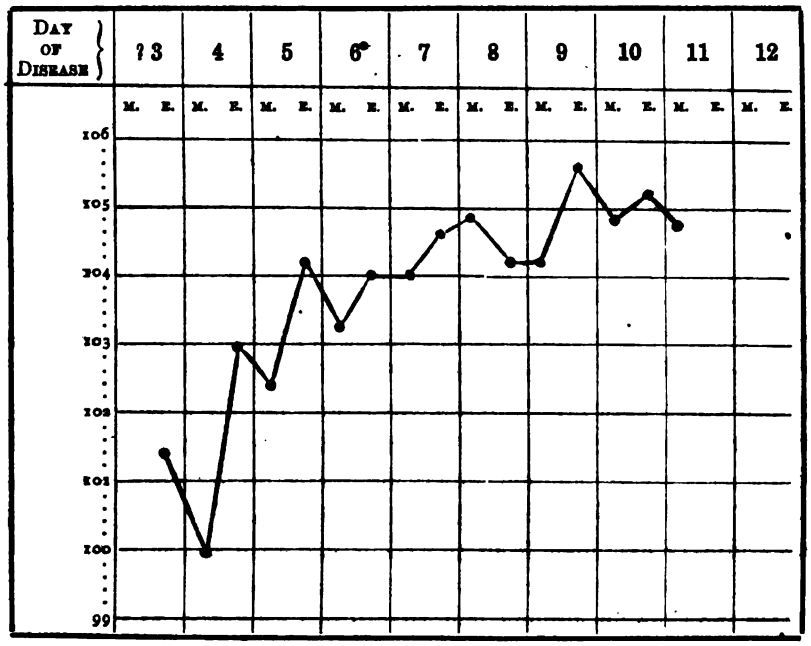
(*c.*) The third case was that of a young man in the out-door staff of the Customs who had just been transferred from Shanghai to Hankow. Allowing for the ordinary incubation stage, this patient must have caught the infection before he left Shanghai. With the exception that large bullæ developed on the feet, shins, hands, and wrists, the particulars of this case are very similar to those of the last one and need not be separately described. Death took place at the same stage of the disease (on the 12th day) and in much the same way, being preceded by profuse diarrhœa, at first tarry, then grumous and slimy, by tumultuous action of the heart, violent palpitation, and præcordial distress.

This last case began on the 13th and terminated on the 25th June. In past years we counted on small-pox being over by the middle of May, and if there were cases then they were generally mild. Possibly in the Chinese city the winter clothes were in use longer, owing to the comparatively cold spring, and the rains about the end of May and beginning of June may have caused the natives to huddle together in-doors more than usual at this season, and thus kept the disease going. In Wuchang city there were cases right on till the end of June.

In addition to these three fatal cases, other three cases of small-pox were treated in the small-pox wards for foreigners during the period under consideration. Two of these came from Hanyang. All three were mild discrete cases, and all did well. It is arranged that these wards, while efficiently ventilated, shall receive only red light, and as in each case the patient was admitted either at the very commencement of the eruption or before the eruption appeared, the effect of excluding white light could be observed. Though, strictly speaking, white light was not always absolutely excluded from the room, yet no direct rays fell on the patient, and in no case, not even in the fatal cases recorded, did suppuration take place. In the two last-described fatal cases the time for suppuration setting in had passed, the pocks had begun to dry

up in some places, and, though death was not averted, the discomfort of the patient was not added to by suppurating sores. In the milder cases salol was given, more with the idea of lessening or preventing irritation of the skin than as a general disinfectant. The pocks at the same time were kept saturated with carbolic oil. In the severer cases, as it has been said (ORY'S observations, quoted in BYRON BRAMWELL'S *Atlas of Clinical Medicine*, vol. i) that cocaine given internally (10 drops of a 5 per cent. solution four times a day) has a specific action in arresting the development of the eruption and restraining the pustulation process, this treatment was adopted. I cannot say that it had any influence in arresting the development of the eruption, though it seemed to ease the throat symptoms, and may have aided in restraining the pustulation process. Iron and digitalis were given, also chloride of calcium and ergot, to try to arrest hæmorrhage in the case "purpura variolosa."

B. *Typhus Fever.*—The first case of typhus in a foreigner that has come under my observation in Hankow occurred in May. As has been said, small-pox and typhus fever were both raging in the Chinese city at that time. The case alluded to was moderately severe, and the patient recovered. Shortly before this, however, the death from typhus fever of a highly respected missionary—a gentleman of some 30 years' residence in the East—had been reported from the Wesleyan Mission at Wu-tzŭ-miao, in the native city. Next, in the beginning of June, two doctors of the London Mission were simultaneously stricken down with typhus. These came under my care. Dr. HODGE, of the Wesleyan Mission, visited them also on several occasions along with me. They got the disease from some patients they had taken into the London Mission Hospital for treatment. Both cases were severe. One, the younger and apparently the stronger patient, died; the other recovered. Below is temperature chart of the fatal case, representing the temperature as taken in the axilla.



Sun.

Three adults died in port from "heatstroke"—one on the 30th July, another on the 5th August, both on board ocean-going steamers. The former case I did not see; the latter I saw for about five minutes before death took place. Patient (steward on board) had been found in his cabin unconscious. When I saw him he was livid and pulseless, and his respirations were already reduced to gasps. The steamer had an iron deck and only a single awning. The third case was that of a gentleman who had undergone hardship and had been exposed to the sun on his way to Hankow. Cold baths reduced his temperature for a time. He lived over a week; but the external temperature keeping continuously high night and day, he at last sank into a state of stupor, muscular tremor and twitchings developed, he became comatose, and died.

Failing a cool hill-station to which such cases could be sent while yet there is time, the only means, it seems to me, of saving such would be to have a room connected with a refrigerator, where the temperature could be gradually lowered and the atmosphere kept fresh and cool.

Several cases of "heat exhaustion" came under my notice during August. One infant, about six weeks old, died of enterocolitis during the hot weather.

It may be mentioned that the thermometer kept high, and the barometer fairly low, from the 28th July till the 17th August. The prevailing breeze, when there was any, was from the south (S.W. or S.E. quadrants)—a hot wind with the foul air of the native city as the latest addition to the impurities it brings us. It was during this period that the deaths from "heatstroke" and most of the cases of "heat exhaustion" occurred.

Dysentery.

As is usual in August, September, and October, there have been a few cases of acute and subacute dysentery. There have been no deaths from this cause. The subacute cases are usually the most troublesome, in that they show a tendency to drag on and become chronic.

Enteric Fever.

While, as mentioned in my last Report, we passed unscathed, so far as enteric fever was concerned, through the months of July, August, and September 1895 (the months in which enteric has usually been most prevalent), we had in November of the same year three cases of that disease in the Concession. One of these was fatal, and so severe as to merit the term "fulminant," this term being applied to cases of exceptional severity in other diseases; *e.g.*, "fulminant small-pox," "fulminant scarlet fever," etc. A similar case, with autopsy, was related in the account of enteric fever given in my last Report. In each case the patient was overwhelmed, as it were, by the intensity of the poison. The terrible severity of these cases (as in other diseases) may be due to the introduction into the system of an exceptionally large dose of a very intense virus, or to the peculiar susceptibility of the patient (naturally or at the time), or to these causes combined.

With regard to the rise and fall of the river, which represents the rise and fall of the subsoil water in the Concession, it may be stated that up till the 24th August the river rose;

from the 24th August till the end of September there was a steady fall of 9½ feet. In October there was a slight dip, followed by a rapid fall of 12 feet during the first three weeks of November. In considering any apparent anomaly in the incidence of enteric fever, however, sanitary changes must not be omitted. The necessary interference with the soil, the cutting off of the old drains, in the work resumed in September, may have something to do with the appearance of enteric fever late in the season.

Sanitary Improvements.

A system of surface drainage, approved of in 1893, was begun to be constructed in November 1894 and was completed in July 1896. The old underground system has been entirely removed, and V-shaped surface drains have been constructed throughout the Concession. Low-lying lots have been raised, roads raised and remade, and levels readjusted. The old connecting underground drains in the various lots have already (with one or two exceptions) been taken up, and fresh surface connexions made with the new system. These old underground connexions were in some instances in a filthy state. In two lots old cesspools were discovered, and in others, drains ending blindly and leaking along their whole lengths. The main sewer had been well constructed, and not a trace of leakage could be discovered from it. The fall, however, was insufficient, and some of the tributary drains were so blocked that no end of flushing could have cleansed them. The new surface drains have been constructed of brick, laid in solid cement and lined by fine Portland cement, floated and tarred. The weak point in construction seems to be that so much depends on this lining of cement and tar. Should this veneer give way, the comparatively porous bricks would soon get saturated and become offensive. An attempt was made, I believe, to get solid concrete troughs—like half those egg-shaped concrete pipings now made for sewers—constructed, but this apparently could not be accomplished, so we have just to trust to the veneer of cement and tar. The work, however, has been well done, and so far it has shown little liability to give way.

The following is a short report by Inspector Miller, in charge of the practical sanitation of the port:—

"The first section of the surface drains was made during the months of November and December 1894 and January and February 1895. The remaining sections were begun in September 1895 and completed in July 1896. The underground drains were taken up between the 27th December 1895 and the 18th January 1896.

"Night-soil is removed nightly; and since January 1896 the ashes, garbage, etc., from compounds have been removed nightly, instead of daily, as was formerly the custom.

"A staff of coolies is employed for keeping the drains clean. They sweep them out twice daily, and wash them out when it is considered necessary."

At the present moment, then, there is probably no port in China where sanitary matters receive so much attention and to such purpose as they do in Hankow. No doubt we are at a great disadvantage as regards our site (*see* my last Report); and waterworks will be the next consideration. Dairy and laundry, too, under foreign supervision, have still to be established on firmer bases than heretofore.

Surgical Cases.

The following are selected from a large number of surgical operations performed by me at the Roman Catholic Mission Hospital during the period under consideration.

1. *Abscess of the Liver.*—This case is selected as one of a class that may any day confront us here in China, while rare enough to foster a belief that special instruments and special facilities are required for the operation. In February A. E. L., aged 32 years, from one of Her Britannic Majesty's ships, was sent to hospital with acute hepatitis and suspicion of abscess. After full doses of chloride of ammonium, his temperature, which had been from 100° F. to 102°.5 F. in the morning and from 102° F. to 103°.5 F. in the evening, fell to normal in the morning and 99° F. to 100° F. in the evening. Acute pain also disappeared, while a localised tenderness remained. The spot most tender on palpation was selected: a good-sized aspirating needle was introduced and pushed steadily onwards in the direction in which abscess was suspected. When at a depth of from 2½ to 3 inches from the surface pus welled up. Patient was now prepared for operation. The point aspirated was between the 7th and 8th ribs, near the anterior axillary line. A somewhat curved incision, of about 1½ inch in length, was made over the 8th rib, with its centre opposite the point that had been aspirated. The intercostal muscles were next divided close to the upper margin of the rib. The aspirating needle was now reintroduced, to act as a guide to the abscess cavity. A small bistoury was passed along the side of the aspirating needle to slit the liver capsule and allow of the introduction of a long fine sinus forceps. On opening the blades of the forceps pus welled out, and when the flow had entirely ceased, the finger—the most delicate of all sounding instruments—was carefully introduced to ascertain the size and lie of the cavity. This having been done, a good-sized thick rubber drainage tube was then placed with bevelled end well in the cavity. Double cyanide gauze dressing was then applied, and supported by a broad binder firmly and evenly applied. Next day on removing the dressing only serous discharge was seen to have taken place, the lumen of the tube was seen to be free, and fresh dressing was applied without further interference. On the third day the cavity had contracted so that its walls impinged on the end of the tube, causing a sharp pain on attempts at movement on the patient's part. The tube was shortened, with complete cessation of pain on movement. On the following day it was further shortened, and by the end of the first week it was entirely removed, there having been practically no discharge after the second day, and then it was only serous. By the end of another week the wound was all but healed. The patient was allowed up, and on the last day of the third week after operation he returned to his ship and to light duty with his wound completely healed and feeling perfectly well.

2. *Ovariotomy.*—Patient, a Chinese woman, 33 years of age, was married, but had had no children. In this case I received valuable assistance from Dr. Hodge and Miss Lister, both of the Wesleyan Mission, as well as from the hospital Sister who nursed the patient after the operation. The tumour was a multilocular one, and was partly solid. The abdominal incision had to be continued round the umbilicus to facilitate the delivery of the solid part of the tumour. The pedicle was ligatured with strong prepared silk. The "toilet of the peritoneum" was performed in the usual manner, warm boiled water in which a little boric acid had been

dissolved being poured in and out to facilitate cleansing, as well as for its stimulating effect on the patient. The abdominal wound was closed with silkworm gut; and as the case had been complicated by ascitic fluid of a thick glairy nature (probably caused by the bursting of a thin walled surface cyst some time previously), I introduced a glass drainage tube into the lower angle of the wound, having first, however, placed in position a silkworm gut ligature ready to be tied should the tube prove unnecessary. Next day the lower part of the dressing was partially removed to expose the tube: no discharge had taken place, though the lumen of the tube was proved to be free. The tube was therefore withdrawn, the ligature lying in place was tied, and the dressing was replaced. The patient recovered without a bad symptom; and when, 10 days later, the dressing and stitches were removed the wound was found to be completely and firmly healed. Even where the tube had been only a linear scar was to be seen, so that its presence in the lower angle of the wound for about 20 hours after operation in no way interfered with the healing of this part. Three weeks later the patient returned home feeling perfectly well, wearing as a support an abdominal belt fitted and made for her by the hospital Sister.

3. *Samples of Large Tumours: Two Cases illustrated.*—(*a.*) Woodcut No. 1 (reproduced from a photograph) represents a large solid tumour springing from the neck, with its base extending on all sides beyond the anterior triangle of the neck. It is seen to be quite as large as the patient's head. Patient carried it suspended in a sling from the shoulder. When

No. 1.

No. 2.

removed it weighed 11 lb. 7 oz. It had been growing for nearly 20 years, though the bulk of its growth took place during the past 18 months, and was evidently sarcomatous. In removing the tumour three skin incisions, each 9 or 10 inches long, corresponding to the three sides of the pedicle, were made. By doubly ligaturing some of the larger vessels and cutting between the ligatures, and by the use of long and strong pressure forceps during the operation, very little blood was lost. The patient sat up to meals next day. On the sixth day after operation he walked outside in the hospital grounds; and within three weeks he left with the wound completely healed and glad to be rid of his burden. Woodcut No. 2 is a reproduction from a photograph taken 16 days after the operation, and shows only a slight fulness remaining—the flaps not yet fully contracted.

(*b.*) The next case (woodcut No. 3, also traced from a photograph) is a large ulcerating tumour situated on the outer and anterior aspect of the upper half of the left thigh.

No. 3.

The discharge was extremely offensive. The patient in this case had been to another foreign hospital, and the surgeon there would not undertake to operate unless the patient would consent to amputation at the hip-joint, should this be deemed necessary in the course of operation. I examined the tumour, and satisfied myself that the femoral vessels were free and that the tumour could be removed without danger of sacrificing the limb. I communicated with the surgeon who had previously seen the patient, but he left the case to me. The patient was then prepared for operation. An elastic band, applied in "figure of 8" fashion round the pelvis and encircling the limb at its very root, with the neck of the "8" drawn well up with a hook, completely controlled hæmorrhage, while it left the area of operation quite free. As I expected, the femoral vessels were entirely free. The tumour was freely and cleanly removed, the tensor vaginæ femoris muscle coming with it, and the upper halves of the vastus externus and the rectus femoris being cleanly dissected in the process. As there was not skin to cover the whole surface, a goodly portion had to be left to granulate over. From the day of the operation the patient's health (as was to be expected after the removal of such a foul mass) began to

improve. The wound healed very kindly; and six weeks after the operation the patient left hospital walking on a sound limb, and quite plump as compared to what he was on the day he was carried in.

4. *Suture of Clavicle.*—About a month before admission on 20th May the patient, a Chinese married woman, aged 32 years, in dispute with her husband, sustained a fracture of the left clavicle just inside the coracoclavicular ligament. The outer end of the long inner fragment was now projected through the trapezius muscle behind and had almost pierced the skin. The shoulder was depressed, and the arm hung quite useless by the side. In a very short time the skin over the projecting end of bone would have sloughed or ulcerated through, and other troubles would have followed. Having been prepared for operation, the patient was anæsthetised, and a long horseshoe-shaped flap, with apex from point of shoulder and base well behind the site of fracture, was dissected up. The end of the inner fragment was freed from the trapezius, the outer fragment was exposed, the broken ends were rawed, the rawed ends brought into position and sutured together with strong silver wire. The flap was then replaced and stitched in position. No drainage tube was inserted, but double cyanide gauze dressing was firmly and evenly applied. All went well. The dressing was renewed on the following day, and was not again disturbed for 10 days, when the wound was found to be firmly healed. The arm was kept in a sling for some time longer. The contour of the shoulder was all that could be desired, and the patient regained perfect use of her arm.

DR. E. H. HART'S REPORT ON THE HEALTH OF WUHU

For the Half-year ended 30th September 1896.

THE longer one lives in a port like Wuhu the more strongly is he convinced that there is something radically wrong in the situation of the Custom House and Assistants' quarters—*i.e.*, from a sanitary point of view. When the present condition of things is changed I hope to be able to present a more favourable report upon the health of the Customs staff.

The present sanitary arrangements are very bad indeed. Foul-smelling drains winding through the filthy streets of Wuhu unite above the Custom House and empty their vile contents into the Yangtze at high water, while at low water they meander slowly over the muddy embankments and river bed, giving out their pestilential odours and malaria microbes, which float gently into the quarters occupied by the Assistants and out-door staff, where they are readily absorbed by the occupants, who are all in good condition to take into their systems every germ that floats about.

There are no facilities for cleansing the drains in the neighbourhood of the Customs quarters, and should there be they would not prove of much value, excepting, possibly, to keep the outlet clean, while the sewerage from the native city would continue to travel as before.

The great need of this port, as I called attention to in my previous Report, is a foreign Settlement where all the sanitary arrangements would be under proper Western supervision.

There is a tract of land which was laid out at one time to be the British Concession. This land, which is of considerable commercial value, would make a splendid Settlement; on the plain the godowns and shipping offices could be built, while residences might be put up on the adjacent hills.

If foreigners are to be continued in the employ of the Imperial Customs Service, the first consideration should be the building of suitable dwellings free from contaminating influences which affect one so readily, morally as well as physically. When one takes into consideration the fact that only two members of the staff have been free from sickness during the period under review—six months,—it behoves those who have charge to see to it at an early date that the exciting causes of the various disorders be done away with as soon as possible, in order to insure better health, save valuable lives, and guarantee to the Service a more effective staff—from a hygienic point of view. Most of the disorders treated have been in a large measure due to local conditions, such as malaria, diarrhœa, ulcerative tonsillitis, chronic catarrhal bronchitis, insomnia, etc.

The health of the community aside from the Customs has been comparatively good, on account of the more healthful location of their dwellings, which in every case is upon high

ground which is easily drained and where fresh air abounds. It is true that I have had a large number of sick on my list, but most of these have been visitors who have spent the summer at their various stations, absorbing malaria and kindred disorders, and have come here for a rest and change—not that Wuhu is a health resort, but on account of its being the nearest port.

One potent factor as the cause of disease in this port is the lack of exercise; but one can hardly blame many for not taking the necessary amount daily, owing to the foul-smelling and filthy streets one has to travel through before he can get out into the fresh air, and when he returns to his quarters he feels that his time and energies have been wasted and that no benefit has been derived from the outing.

During the six months under review there have been five births—all girls—and three deaths.

The first death was due to a lesion of the brain. No autopsy was made, unfortunately, owing to various objections—not on the part of the medical officer, however.

The second was that of a Roman Catholic priest who had returned from the country and was seized with heat apoplexy, from which he died.

The third was due to malarial poisoning culminating in a congestive chill, followed by a very rapid and high range of temperature—111° in the axilla.

The following is a list of the diseases treated in this port during the last six months:—

Alcoholism.
Ascaris lumbricoïdes.
Bronchitis, acute capillary.
„ chronic catarrhal.
Carbuncles.
Conjunctivitis, catarrhal.
Constipation.
Continued fever.
Dermatitis.
Diarrhœa, choleraic.
„ dysenteric.
„ infantile.
Erysipelas.
Gastro-intestinal catarrh.
Heat apoplexy.
Hepatic congestion.
Insomnia.
Intermittent fever.
Laryngitis.
Measles.
Menorrhagia.
Nephritis, chronic parenchymatous.
Nervous prostration.
Neuralgia, facial.
„ intercostal.
Pharyngitis.
Phthisis pulmonalis.
Prolapsus uteri.
Pruritus vulvæ.
Purpura hæmorrhagica.
Rheumatism, articular.
Sprained knee.
Tinea circinata.
Tonsillitis, follicular.
„ ulcerative.
Typhoid fever.
Ulcer leg.

The above list shows that 37 different disorders have been treated. 32 members of the Customs staff,* and 33 transients and residents aside from the Customs, have been sick.

* This includes wives and children.

The summer was one that tried all who remained in port; nearly everyone was in a run-down condition. The heavy rains of May, June, and July were followed by great heat during the latter part of July and the first three weeks of August, when, fortunately for the residents, the weather changed, the days being warm and nights cool, so that all were able to obtain the necessary rest.

The summer, though trying to many, has been free from epidemics, the coffin-makers complaining that it was a very dull season.

I enclose a meteorological report, which has been kindly furnished to me by the Harbour Master, Mr. A. W. KINDBLAD.

METEOROLOGICAL TABLE, April to September 1896.

MONTH.	BAROMETER.			THERMOMETER.			RAINFALL.	
	Highest.	Lowest.	Mean.	Highest.	Lowest.	Mean.	No. of Hours.	Quantity.
	Inches.	*Inches.*	*Inches.*	° *F.*	° *F.*	° *F.*		*Inches.*
April	30.350	29.650	30.015	95.0	39.0	59.0	115	5.32
May	30.342	29.712	29.978	93.0	50.0	69.0	104	8.01
June	30.150	29.612	29.824	96.5	54.0	76.0	82	11.63
July	29.954	29.482	29.760	101.0	68.5	82.0	88	13.52
August	30.000	29.700	29.850	101.0	70.0	85.5	22	3.19
September	30.162	29.700	29.973	93.0	63.0	76.0	65	2.06

DR. ALFRED HOGG'S REPORT ON THE HEALTH OF WENCHOW

For the Half-year ended 30th September 1896.

THE health of the foreign community, as well as of the Chinese, has been fairly good during this half-year, and there have been very few cases of any serious import. The weather for a large part of the time was rainy, and the summer was cooler than for several years past. Fortunately, too, the city has not been visited by cholera this summer, and as yet no case of it has come under my notice, though attacks of diarrhœa have been common, as usual.

There have been no deaths; but one birth occurred—a male, large and well developed. There was excess of liquor amnii, which, coupled with the large size of the infant, induced severe postpartum hæmorrhage, owing to uterine inertia and retained placenta. This was controlled, however, by injections of hot water, and ergot internally, and the mother rallied quickly afterwards.

An elderly member of the Customs staff suffered severely from a hot burst in June, showing symptoms of heat apoplexy, and had to be ordered away to a cooler spot during the summer months.

While the s.s. *Poochi* was in port the captain and officers, along with the steward and table "boys" and two members of the Customs staff who had been dining on board, were all variously seized with fever, or diarrhœa, or both. It was a week before two of them recovered. The cause was strongly suspected to be due to some ice-cream which had been partaken of on the previous day.

Among the cases treated have been:—

Malarial fever.	Rupture of cornea.
Diarrhœa.	Incipient typhoid.
Gastritis.	Stomatitis.
Conjunctivitis.	Laryngitis and pharyngitis.
Interstitial keratitis.	Asthma (spasmodic).

There have also been large numbers of Chinese treated at the dispensary of the Methodist Mission.

For the meteorological table I am indebted to Mr. BENSON, Harbour Master.

METEOROLOGICAL TABLE, April to September 1896.

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.	
	Maximum.	Minimum.	Maximum.	Minimum.	No. of Days.	Quantity.
	Inches.	*Inches.*	° *F.*	° *F.*		*Inches.*
April	30.280	29.640	78	51	15	5.04
May	30.266	29.650	88	60	17	3.74
June	30.080	29.594	93	66	15	12.47
July	29.986	29.460	93	73	13	12.93
August	30.064	29.700	94	77	8	4.34
September	30.200	29.830	93	72	12	1.77

RAPPORT MÉDICAL

DU 1ER JUILLET 1895 AU 31 MAI 1896, SUR LA SITUATION SANITAIRE DE LUNGCHOW,

Par le Docteur J. J. DELAY.

CLIMATOLOGIE.

L'ÉTÉ de 1895 a été marqué dans la région de Longtchéou (Lungchow), comme dans les régions voisines du Tonkin, par une sécheresse exceptionnelle. Le nombre des journées pluvieuses, qui pour la période correspondante (mai, juin, juillet, août, septembre) de 1894 s'était élevé à 96, n'a été que de 59 et la quantité d'eau tombée a été très-peu abondante. Le fleuve Sikiang, qui l'année précédente avait eu des crues de 8 mètres, ne s'est élevé que deux fois à 1 mètre et 1 mètre ½ au-dessus des plus basses eaux. La saison présente ne s'annonce pas comme devant réaliser les mêmes conditions. À la suite de fortes pluies survenues vers la fin de mai, une crue passagère d'environ 6 mètres a déjà été observée.

La température moyenne des cinq mois de la saison chaude a été exactement la même que celle des deux années précédentes (27°.5 centigrades). La moyenne des trois mois d'hiver (décembre 1895, janvier et février 1896) a été de 16°.7.

Les journées les plus chaudes ont été celles du 1er juillet 1895 et des 26 au 31 mai 1896 (35° centigrades). Le minimum observé a été de 7° le 16 février 1896.

Les pressions barométriques extrêmes ont été de 774 millimètres le 15 février 1896 et de 746 millimètres 5 le 29 juillet 1895.

Pour l'année complète de 1895 la moyenne de la température, qui avait été de 22°.5 en 1893 et de 22°.7 en 1894, s'est élevée à 23°. La pression barométrique moyenne a été de 760 millimètres.

RELEVÉ DES OBSERVATIONS MÉTÉOROLOGIQUES du 1er Juillet 1895 au 31 Mai 1896.

MOIS.	TEMPÉRATURES MOYENNES.			PRESSIONS BAROMÉTRIQUES MOYENNES.	JOURNÉES PLUVIEUSES.	ORAGES.	VENTS DOMINANTS.	AUTRES OBSERVATIONS (Hauteur des Eaux du Fleuve).
	Maxima.	Minima.	Moyenne du Mois.					
1895.	°C.	°C.	°C.	*Millimètres.*				
Juillet	31.1	25.4	28.2	753.8	15	4	S. et S.O.	Crue de 1 m. environ.
Août	30.1	24.6	27.3	754.6	13	5	S.O.	
Septembre	31.4	24.5	27.9	758.0	4	...	N. et N.E.	
Octobre	27.5	23.1	25.3	761.6	18	1	S.O.	Crue de 1 m. 50 environ.
Novembre	24.3	16.2	20.2	766.3	1	...	S.O.	
Décembre	20.2	16.6	18.4	766.7	11	...	S.O. et N.E.	
1896.								
Janvier	20.3	15.4	17.8	765.8	9	...	S.E. et N.E.	
Février	15.3	12.5	13.9	766.5	12	...	S.O.	
Mars	18.8	15.3	17.0	762.8	18	3	S.E. et O.	Crue de 1 m. environ.
Avril	27.5	22.8	25.1	759.0	16	7	S.	
Mai	30.2	24.1	27.1	759.5	12	1	S. et S.O.	Crue de 6 m. environ.

ANALYSE DES EAUX DE LONGTCHÉOU.

Je crois devoir indiquer ici le résultat de l'analyse des eaux du Songkikong (rivière de Langson), du Songbang Giang (rivière de Caobang) et du fleuve Sikiang que M. le Pharmacien de la Marine BAILLET a bien voulu faire sur ma demande au laboratoire de l'hôpital de Haiphong.

La prise d'eau avait été faite au moment des plus basses eaux.

"Eaux claires, limpides, sans odeur d'ammoniaque ni d'acide sulfhydrique, contenant un légèr dépôt.

	Degré hydrotimétrique.	Matières organiques (par Litre). Réduction par le Permanganate de Potasse.
		Milligrammes.
Eau du Sikiang	8	9
„ Songkikong	7	9
„ Songbang Giang	8	10

"Les sels sont surtout des sels de soude, de potasse et de chaux. Pas de chlorures.

"Le dépôt contient quelques microbes (micrococci). L'eau du Songkikong donne peu de microbes, mais contient des algues microscopiques qui ont pu se développer depuis la prise d'essai.

"En résumé, ces eaux seraient bonnes, si elles ne contenaient pas une aussi grande quantité de matières organiques. Très-potables après ébullition."

PATHOLOGIE (MALADIES OBSERVÉES ET TRAITÉES).

Européens (effectif moyen = 7).

Fièvre paludéenne intermittente	14	Diarrhée	2
„ „ rémittente	1	Furoncles et lymphangite	1
Congestion du foie	1		

Ce sont toujours les affections palustres qui sont les plus fréquentes. Mais à part un cas assez sérieux de fièvre rémittente observé à la fin de janvier 1896, les accès ont présenté peu de gravité.

Des conditions climatériques exceptionnelles ont rendu particulièrement pénible l'été de 1895 et la plupart des Européens ont été plus ou moins fatigués.

Indigènes.

Pathologie interne.

Maladies épidémiques:—		Fièvre palustre	36
Peste (un cas traité—décès)	1	Orchite paludéenne	1
Varioloïde	1	Bronchite simple	12

Pleurésie	1	Cirrhose du foie et ascite	1
Broncho-pneumonie	1	Hypertrophie de la rate	2
Pneumonie	1	Néphrite albumineuse	4
Tuberculose pulmonaire	8	Rhumatisme articulaire aigu ou chronique	15
Affections du cœur	1	Névralgies diverses	4
Stomatite simple	2	Hystérie (avec paraplégie)	1
Diarrhée	8	Myélite chronique	2
Dysenterie	9	Paralysie infantile	1
Ictère simple	1	Cachexie opiacée	1
Congestion du foie	1		

Pathologie externe.

Coup de feu de la main droite ayant nécessité la désarticulation de l'annulaire	1	Kyste tendineux du poignet	1
		„ sanguin de la région hyoïdienne	1
		„ de l'ovaire	1
Coup de feu de la région scapulaire postérieure	1	Cystite et rétention d'urine	1
		Hemorrhoïdes	1
Plaie de l'abdomen par instrument tranchant (tentative de suicide)	1	Fistule anale	2
		Hémorrhagie chez un hémophilique	1
Luxation du coude	2	Otite externe—obstruction de la trompe d'Eustache	3
Ulcères et plaies diverses	7	Conjonctivites simples	13
Contusions et plaies contuses	7	„ granuleuses	1
Abcès divers	13	„ purulentes	2
Panaris	1	Kératites	7
Ostéite du sacrum	1	Iritis (syphilitique)	1
Lymphangite	3	Staphylome opaque de la cornée	1
Adénite cervicale chronique	2	Ptérygion	3
Epithéliome de la langue	1	Entropion	1
Lupus de la face	1	Rétinite pigmentaire	1
Kyste du sourcil	1		

Maladies cutanées et vénériennes.

Gale	6	Uréthrite	3
Herpès circiné	3	Chancres simples	9
Acné	1	„ et bubons suppurés	11
Eczéma	8	Chancre induré	1
Psoriasis	4	Syphilis secondaire	4
Urticaire	1	„ tertiaire	6
Lèpre	2		

Accouchements 5

Vaccinations pratiquées avec succès 34

OBSERVATIONS.

Je n'ai rien à ajouter à ce que j'ai dit dans mon rapport de l'année précédente au sujet des conditions d'hygiène et de salubrité de la ville de Longtchéou, qui sont demeurées absolument les mêmes, c'est-à-dire très-défectueuses.

Cette année encore, la peste a fait quelques victimes dont je ne puis évaluer le nombre. Mais les cas ont été isolés, bien moins nombreux que l'an dernier, et la maladie n'a pas présenté de caractère épidémique.

Des cas de variole ont été également signalés en assez grand nombre.

Les affections que j'ai eu l'occasion d'observer et de traiter chez les Asiatiques sont aussi variés que nombreuses. Malheureusement, le manque d'aides et d'installation m'interdit toute opération un peu difficile ou demandant des soins consécutifs sérieux et suivis, et je dois me borner à la pratique de la chirurgie d'urgence.

J'ai eu l'occasion d'intervenir dans cinq cas d'accouchements: un normal et quatre dystociques. Ces derniers se ressemblent à peu près tous, au point de vue des symptômes présentés et de la facilité avec laquelle la guérison a été obtenue, en dépit des conditions déplorables de l'intervention, au point de vue de l'antisepsie et de l'hygiène.

Chaque fois, je me suis trouvé, souvent la nuit dans d'infects taudis, sans air ni lumière suffisante, où je pouvais à grand peine obtenir un peu d'eau, en présence de femmes très-affaiblies, chez lesquelles le travail était entravé depuis plusieurs jours par une inertie complète de l'utérus. L'une d'elles présentait des crises éclamptiques violentes. Sauf dans un cas, l'enfant avait cessé de vivre. La tête étant à la vulve ou peu élevée, les applications du forceps furent assez faciles, mais l'extraction, par contre, fut parfois laborieuse. Ce qui augmentait les difficultés, c'est que j'étais absolument sans aide, les seules personnes présentes se réduisant à deux ou trois matrones affolées et incapables de rendre aucun service utile.

Il n'est pas surprenant que, dans ces conditions, je n'aie pu éviter chaque fois une déchirure assez étendue du périnée, sans rupture toutefois de la cloison recto-vaginale. Dans deux cas j'ai appliqué des points de sutures. Mais, soit que l'opération n'ait pas été pratiquée d'une manière satisfaisante, ce qui est fort possible dans les conditions indiquées, soit par suite de l'indocilité des opérées, la réunion immédiate n'a pu être obtenue. Cependant, la cicatrisation s'est effectuée par granulations au bout d'un temps assez court. Il en a été de même pour les autres malades, qui, une fois délivrées, ont refusé des soins consécutifs et se sont néanmoins parfaitement rétablies. Ces faits semblent confirmer ce principe, admis par un grand nombre d'accoucheurs, mais pourtant quelquefois contesté, que "toute lacération qui ne sépare pas complètement le sphincter anal peut guérir sans traitement chirurgical."

LA MÉDECINE EUROPÉENNE À LONGTCHÉOU.

En terminant, je crois devoir signaler la confiance de plus en plus grande que témoignent les habitants de Longtchéou à la médecine européenne. Les indigènes, naturellement hostiles à tout ce qui est étranger, en arrivent cependant à modifier peu à peu leurs idées à ce sujet et viennent en grand nombre demander des soins, même pour leurs femmes, ce qui est intéressant

à noter. Les médecins chinois ne sont pas, en effet, admis à examiner les femmes. Souvent ils ne les voient même pas. La malade passe son bras entre les rideaux du lit et l'homme de l'art peut lui tâter le pouls. C'est le seul moyen de diagnostic qui soit mis à sa disposition. Inutile de parler du traitement qui peut être institué dans ces conditions.

Dès les premiers mois de 1892, deux médecins français pratiquaient sur la fille d'un des premiers mandarins de Longtchéou une opération qui la délivrait d'une infirmité gênante (fistule anale). Cette marque de confiance, donnée par un haut fonctionnaire à des médecins étrangers, n'a pas été, certainement, sans influence sur l'esprit des habitants. Mes prédécesseurs, les docteurs GARNIER et SIMOND, ont eu une pratique très-active et les préventions semblent tomber peu à peu devant les résultats obtenus.

Depuis le mois de juin 1894 jusqu'à ce jour, j'ai donné mes soins à environ 500 malades de tous âges, de tous sexes et de toutes les classes de la société. De plus, contrairement aux coutumes et malgré les préjugés, j'ai été appelé à différentes reprises pour des accouchements. Toujours, il est vrai, c'était au dernier moment. Lorsqu'il n'y avait plus d'espoir, on allait chercher le "diable étranger." Mais, heureusement, le résultat de ces interventions a toujours été aussi satisfaisant que possible.

On parle, depuis quelque temps déjà, de la fondation d'un hôpital, qui serait établi aux frais des mandarins et des principaux négociants. La question des dépenses d'installation semble seule retarder pour le moment l'exécution de ce projet. Il faut espérer que ces difficultés ne seront pas insurmontables et qu'il deviendra bientôt possible de créer cet établissement qui, en rendant de grands services aux habitants, ne pourrait que faire connaître et apprécier d'avantage notre civilisation.

Je suis heureux, avant de quitter Longtchéou, d'exprimer ici mes sincères remercîments à messieurs les fonctionnaires des Douanes Impériales et du Consulat de France, ainsi qu'aux autorités chinoises, dont la bienveillance et la constante amabilité ont grandement facilité l'accomplissement de mon devoir professionnel.

614.0951

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

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53rd Issue.

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CHINA.

74 : 42

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INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.— * * * * *

I am, etc.,

(Signed) ROBERT HART,
I. G.

THE COMMISSIONERS OF CUSTOMS,—*Newchwang*, *Tientsin*, *Chefoo*, *Hankow*, *Kiukiang*, *Chinkiang*, *Shanghai*, *Ningpo*, *Foochow*, *Amoy*, *Swatow*, and *Canton*.

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NOTE

SUR

LA DURÉE DE L'IMMUNITÉ VACCINALE

CONFÉRÉE PAR LA VARIOLE

DANS

LE NORD DE LA CHINE.*

Par le Docteur J.-J. MATIGNON,

MÉDECIN AIDE-MAJOR DE 1ère CLASSE DE L'ARMÉE,

ATTACHÉ À LA LÉGATION DE LA RÉPUBLIQUE FRANÇAISE À PÉKIN.

À LA fin de l'hiver 1894–1895, nous fûmes surpris, au moment où nous pratiquions la vaccination et la revaccination des Européens et des divers détachements qui étaient, à l'occasion de la guerre, montés à Pékin, de voir ces dernières suivies de succès sur nombre de marins espagnols et italiens, qui portaient sur les bras les traces d'un vaccin légitime datant de deux ans et sur un Français et un Espagnol, qui, quelque 20 ans plus tôt, avaient eu la variole.

Il nous parut intéressant de rechercher si l'immunité vaccinale, conférée par une atteinte de variole, était, en Chine, de courte durée, et, dans ce but, nous pratiquâmes au printemps, à l'automne et au commencement de l'hiver de 1895 des vaccinations sur les enfants des missions catholiques de Cha-la-eul, du collège français du Nan T'ang et de l'orphelinat des petites filles du Jen Tsé T'ang.

Nous choisîmes, à cet effet, ceux des enfants qui portaient les traces les plus manifestes de la variole.

122 *enfants*, filles ou garçons, furent vaccinés par scarification ou piqûre.

Nous eûmes 73 *succès* et deux cas douteux, soit 59.8 %.

Les enfants avaient un *âge moyen* de 5.11 ans et la variole les avait atteints à l'âge de 3.8 ans.

L'immunité, considérée *pour l'ensemble* des enfants, a duré 8 ans; celle des vaccinés avec succès a été de 8.33 ans.

Nos vaccinations ont été partagées en trois séries.

La première série porte sur les enfants trouvés de la mission de Cha-la-eul, sise hors de Pékin. Les vaccinations furent pratiquées fin mai 1895.

Nous avons procédé par scarifications et par piqûres. Les résultats différents que nous avons obtenus montrent nettement la supériorité de la méthode par scarification.

* Communication faite à l'Académie de Médecine de Paris, 3 mars 1896.

Le vaccin dont nous nous sommes toujours servi est de la pulpe glycérinée de buffle qui nous a été très obligeamment adressé par M. le médecin de 1ère classe des colonies LÉPINAY, directeur du laboratoire de Saïgon.

(*a.*) 36 *enfants*, d'un âge moyen de 10.08 ans, sont vaccinés par *scarifications*. Ils ont eu la variole à l'âge de 1.65 ans.

Résultat: 28 succès, soit 77.7 %.

L'immunité prise en bloc a duré 7 ans ½; chez les enfants vaccinés avec succès, elle a été de 7.13 ans.

Comme *complications*, notons huit fois de l'adénite axillaire, parfois assez douloureuse, soit dans 28.5 % des cas. Cette fréquence de l'adénite peut, croyons-nous, être expliquée de la façon suivante: la vaccination a été pratiquée pendant la saison chaude; de plus, les enfants sont très sales; beaucoup ont écorché leurs pustules et c'est surtout chez ces derniers que s'est montrée l'adénite douloureuse. Pas de suppuration, pas de phénomènes généraux.

Chez certains enfants nous fîmes 5 scarifications; il y eut, en moyenne, 4 pustules, soit 80 %; chez d'autres on n'en fit que trois, qui donnèrent naissance à 2.21 pustules, soit 73.3 %.

(*b.*) *Le résultat des piqûres* fut moins satisfaisant:

19 *enfants*, d'un âge moyen de 13.1 ans, ayant eu la variole à 4.2 ans, reçoivent 4 piqûres.

Résultat: 6 succès, soit 31.5 %.

Comme *complication*, une adénite légère, soit 16.6 %.

Les 4 piqûres donnent en moyenne 2 pustules, soit 50 %.

La vaccine a évolué en trois jours et demi.

Nous n'avons pu, dans aucun cas, établir de rapport entre l'immunité et la gravité d'une première atteinte de variole, jugée par les marques qu'elle laisse sur la figure. Beaucoup d'enfants dont les cicatrices varioliques étaient minimes sont restés réfractaires au vaccin, alors que d'autres portant des cicatrices vicieuses de l'œil ou de la lèvre ont été parfaitement réceptifs.

Deuxième série.—Au commencement de l'automne, nous avons vacciné, par scarifications et piqûres, les enfants variolés du collège français du Nan T'ang, situé dans Pékin.

(*a.*) 26 *enfants*, d'un âge moyen de 12.7 ans, reçurent 3 *scarifications*. Ils avaient eu la variole à 3.9 ans.

Résultat: 19 succès, soit 79.9 %.

L'immunité globale a duré 8.45 ans; celle des vaccinés avec succès 8.6 ans.

Les trois scarifications produisirent 2.26 boutons, soit 75.3 %.

À noter comme *complication:* 3 adénites légères, 15.7 %.

(*b.*) 13 *enfants*, d'un âge moyen de 12.7 ans, ayant eu la variole à 3.5 ans, reçoivent 3 *piqûres*.

Résultat: 4 succès, soit 30.7 %.

L'immunité générale a été de 9.1 ans; celle des 4 enfants vaccinés avec succès de 8.7 ans.

Les trois piqûres donnent 1.5 pustules, 50 %.

La vaccine a évolué en quatre jours et demi.

Dans les deux modes de vaccination, nous n'avons pu noter de rapport entre la gravité d'une atteinte antérieure jugée d'après les cicatrices et la réceptivité vaccinale.

Troisième série.—Les petites filles de l'orphelinat du Jen Tsé T'ang, situé dans le nord de Pékin, sont vaccinées par scarifications au milieu du mois de novembre.

30 *enfants*, ayant en moyenne 9.9 ans et ayant eu la variole à l'âge de 2.7 ans, reçoivent 5 scarifications.

Résultat: 16 succès, soit 53 %, et deux cas douteux.

L'immunité des 30 enfants a duré 7.1 ans et celle des 16 fillettes vaccinées avec succès 7 ans.

Complications: une adénite légère, 6.2 %.

Les cinq scarifications ont produit 3.68 pustules, soit 73.6 %.

Nous avons pris de la sérosité de trois de ces pustules, nettement ombiliquées, dont nous nous sommes servi pour vacciner trois enfants nouveau-nés. Nous avons, chez ces derniers, obtenu par piqûres de très belles pustules vaccinales.

De l'exposé précédent nous pouvons conclure:

1°. La variole, dans le nord de la Chine, confère contre la vaccine une immunité temporaire. Sa durée est relativement courte. D'après nos statistiques, la durée maxima est de 9.3 ans; la *durée minima* de 7 ans. Nous ne retiendrons que la dernière, la première étant éminemment variable et fonction même de l'âge des sujets vaccinés.

2°. Les succès de la vaccination sont en raison de l'âge de l'enfant. Cette conclusion n'est que le corollaire de la précédente. Les enfants, en Chine, ont généralement la variole en bas âge. Or, plus nous les vaccinerons tard, plus nous aurons de chances de trouver des sujets réceptifs, l'immunité diminuant avec le temps. En effet, sur les enfants du collège, dont l'âge moyen est de 12 ans, nous avons 79.9 % de succès; sur ceux de Cha-la-eul, âgés de 5, 8, 11 ans, nous obtenons 77.7 % de succès; et sur les orphelines du Jen Tsé T'ang, qui ont 9.9 ans, la proportion tombe à 53.3 %.

3°. Le succès est en raison directe de la quantité de vaccin inoculé. Aussi la scarification donne-t-elle un pourcentage de beaucoup supérieur—presque 2 fois ½—à celui de la piqûre.

À Cha-la-eul, nous obtenons:

Scarifications: 77.7 % de succès;

Piqûres: 31.5 %.

Au collège du Nan T'ang:

Scarifications: 79.1 %.

Piqûres: 30.7 %.

Des résultats identiques sont obtenus par revaccination d'enfants vaccinés quelques années auparavant, la scarification donnant 71.1 % de succès et la piqûre 33 %.

De plus, si nous examinons le nombre des pustules vaccinales consécutives aux scarifications et aux piqûres, nous trouvons:

À Cha-la-eul:

73.3 % et 80 % des scarifications suivies de pustules vaccinales;

50 % de piqûres suivies de pustules vaccinales.

Au collège, même résultat:

75.3 % de scarifications donnent naissance à des pustules;

50 % des piqûres seulement en produisent.

4°. La vaccination par scarification offre sur la méthode par piqûres de réels avantages. En revanche, elle est plus fréquemment compliquée d'adénite; adénite légère, car il y a plutôt congestion qu'inflammation de la glande et la regression des phénomènes est rapide. Cette fréquence de l'adénite s'explique par ce fait que, après la scarification, les pustules vaccinales sont et plus nombreuses et plus volumineuses qu'après la piqûre; et partant, les chances d'excoriation ou d'infection, soit par le grattage, soit par frottement des habits, sont d'autant plus considérables. Même remarque a été faite pour la vaccination des enfants non variolés. Mais ces légers inconvénients sont largement compensés par les résultats que donne la scarification, résultats qui sont à peu près deux fois et demie supérieurs à ceux de la piqûre.

5°. Les pustules obtenues sont bien des pustules vaccinales. Nous avons inoculé avec succès leur sérosité à des nouveau-nés.

6°. Il n'y a pas de rapport à établir entre la gravité supposée d'une variole antérieure jugée par les cicatrices qu'elle laisse sur la figure et la réceptivité vaccinale.

7°. Il y a nécessité pour les Européens variolés depuis un certain temps, et habitant Pékin, centre endémique de variole, de se faire revacciner.

DR. C. C. DE BURGH DALY'S REPORT ON THE HEALTH OF NEWCHWANG

For the Half-year ended 31st March 1897.

THREE births and three deaths occurred during the period under review.

One of the fatal cases was an infant 14 days old, who died in convulsions; another was that of a child three months old, who died suddenly in some kind of fit immediately after taking food; and the third was that of a French Sister of Charity, who was attacked with confluent small-pox, and died on the 14th day.

The general health of foreign residents was excellent, there being no other case of serious illness. There was an epidemic of mumps in January, and the ordinary number of sore throats in the early spring.

DR. E. W. VON TUNZELMANN'S REPORT ON THE HEALTH OF CHEFOO

For the Half-year ended 31st March 1897.

THE health of the Chefoo community during the six months ended 31st March 1897 has been very good, save for the prevalence of the fever mentioned in my last Report. Of this there have been several cases, as described in detail below, one ending fatally.

In the preceding Report two varieties of non-malarial remittent fever were described, the one, associated with both forms of blood parasites, being of a very severe and dangerous type, the other, associated with one only, being much milder: it was inferred that the dangerous symptoms—coma, signs of cerebral cortex irritation, etc.—were due to the medusoid parasite, and that the other was associated with much less dangerous symptoms; also, that the prevalence of these causes of disease was attributable to the reclamation works. Further experience, as will be shown, has necessitated a change in these views. A fever of a very severe type has been found associated with the smaller parasite only; and cases continued to occur long after the cold weather, and the progress of the reclamation works, would have put an end to any infection from this source. On the other hand, no more cases of fever associated with the medusoid parasite have occurred, a fact which forcibly corroborates the view before expressed as to the source of this particular infection.

As regards the medusoid parasite, having had no more cases to study, I have but one important fresh observation to record, and will now describe it, so finishing for the present with this remarkable organism; and then proceed with the other organism, on the natural and pathological history of which the work of the last six months has thrown a flood of light.

While carefully going over the preparations made from the blood of sufferers from what I have before described as "medusa fever," I found in one from the 8-year old boy (not having a copy of my last Report I cannot give exact references) the strange objects depicted in Plate I, Figs. 2 and 3. It is at once evident that the linear objects with diamond-shaped and crooked ends shown in one of my earlier plates were *débris* from a similar structure. Some of the radiating branches may be seen to carry a round or oval body, not unlike a small blood corpuscle, at their distal ends; these obviously are the early stages of what I incorrectly imagined to be intra-corpuscular stages of the medusoid parasite. It is now clear that these latter, several of which are depicted in my last Report, are (presumably) gonophores—at any rate, that they are in no way associated with the red corpuscles. The medusoid parasite thus appears to confine itself to the blood plasma, the corpuscles being unaffected, so far as my observations show. Of all the numerous preparations made from blood infested with this parasite, one only contains this remarkable object, evidently a breeding phase; and this one had two of them, both close together in a thick mass of corpuscles, etc. Their huge size is a very adequate explanation of their rare presence in the finger blood. In a fatal case, such as

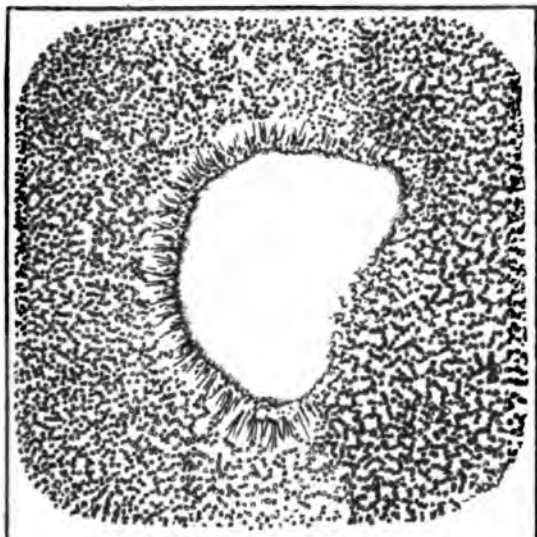


Fig. 2.– 80 diameters.
Breeding phase.

Fig. 1.– 250 diameters.

1 and 2, under aspect of large specimens;
3, group of five small specimens.

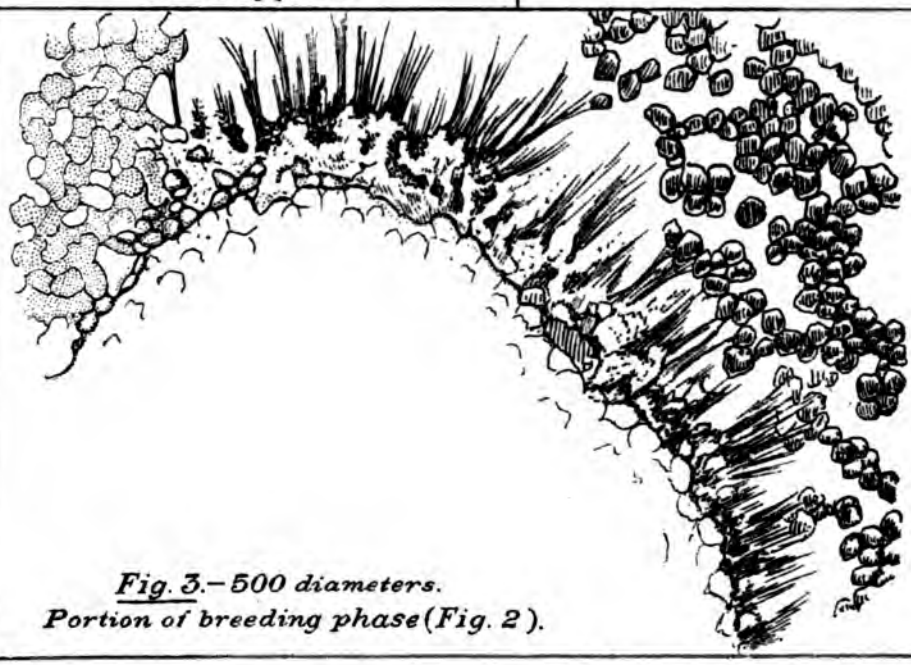


Fig. 3.– 500 diameters.
Portion of breeding phase (Fig. 2).

PLATE I.

Medusa Sanguinis Hominis.

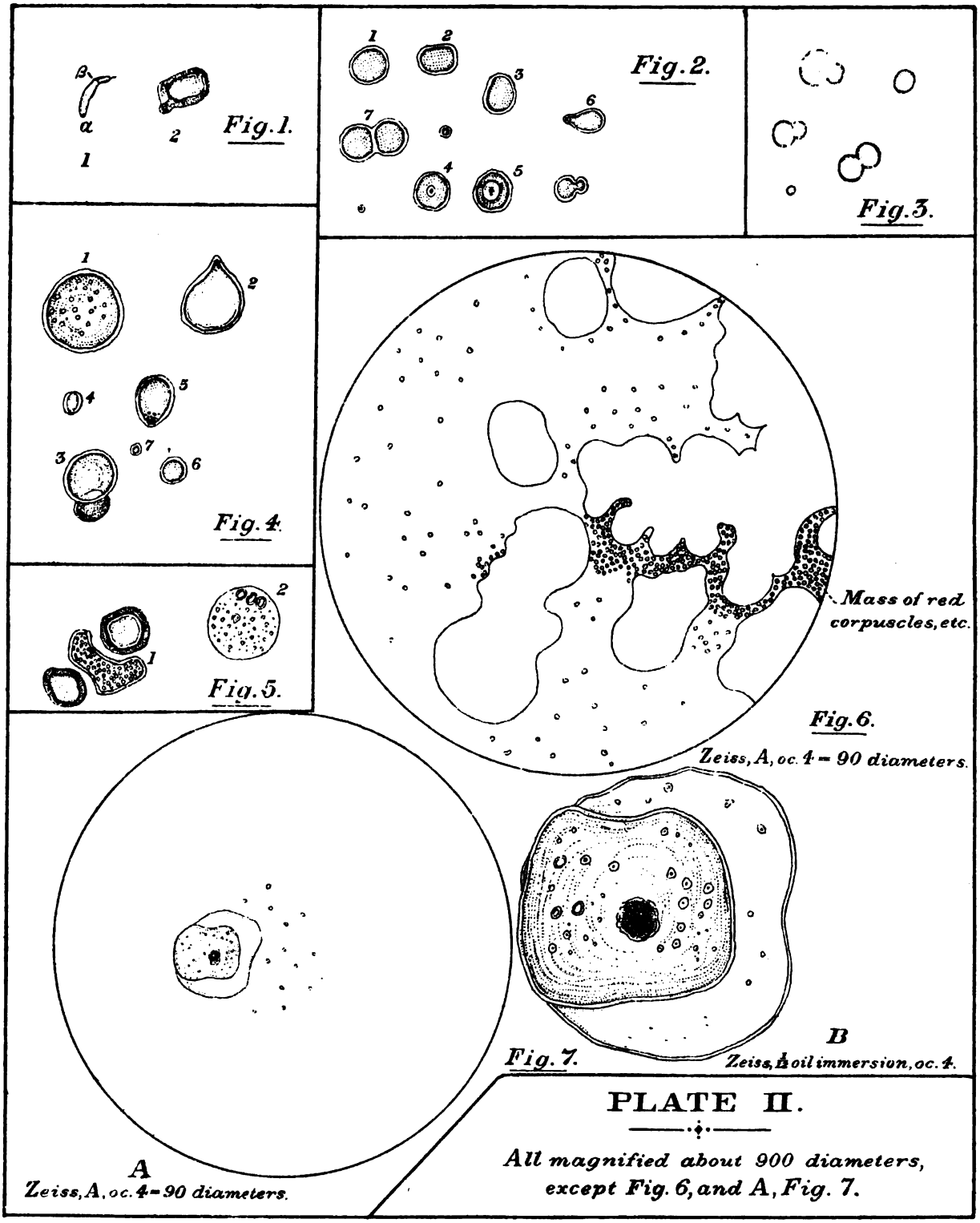


PLATE II.

All magnified about 900 diameters, except Fig. 6, and A, Fig. 7.

No. 1 of the last Report, the peripheral cerebral vessels would doubtless hold them in profusion; and the examination of the brain of such a fatal case is obviously a great desideratum.

As to the other parasite, I have found it swarming in the blood of over 200 persons, foreigners and Chinese, of both sexes and all ages, both Chefoo residents and visitors from all parts of China, the great majority being in fair, some in robust, health. Further observation, as will be narrated, indicates it to be a corticate protozoon, probably closely related to the organisms found by LEWIS and others in the blood of healthy rats and hamsters, by MITROPHANOW in the blood of certain mud-fish, etc. (termed by him *Hæmatomonas*), and by STEEL and CROOKSHANK in the blood of horses, mules, and camels suffering from a disease known as *surra*. CROOKSHANK found the surra organisms also in healthy rats in England, and assigns them, and probably also the fish parasites, to the genus *Trichomonas sanguinis;* this new blood protozoon, which I have succeeded in cultivating, will probably be found to belong to the same genus.

Thus the very enigmatical fact, which has naturally excited much incredulity in the medical profession in China, that a parasite of considerable size was to be found in a very large number of healthy persons, is to some extent explained, if its collocation with a similar phenomenon is to be regarded as an explanation. Its occasional pathogenic qualities will be found to be in great measure associated with and explained by the most remarkable cycle gone through in the course of its sexual reproduction, a process which was first made out in cultures, though most of the steps have since been studied in the blood of fever patients.

As to the source of infection, a pregnant hint was given by the discovery in numerous samples of Chefoo milk of the organism, usually in such enormous numbers that the sample resembled a pure culture of the protozoon, mixed with a few fat globules. This reminded me that in the summer of 1895 a cattle plague of great virulence raged throughout Shantung; the disease was "characterised by fever, petechiæ of mucous membranes, great prostration, and rapid wasting, terminating in death" (CROOKSHANK'S *Bacteriology*, section on "Surra"), *i.e.*, the symptoms of surra. Most of the affected cattle died, but some survived; and it seems likely that the parasite would persist in the blood of these (as it does in the human convalescent from non-malarial remittent fever), infect the milk, and so its consumers. This is rendered the more likely by the further remarkable fact that boiling the milk for half an hour on three successive days does not destroy the parasites—is, in fact, an excellent method of obtaining a pure culture with infested milk.

A large variety of adult forms of this parasite have previously been described; in view of the fact that Mr. CROOKSHANK assigns the above-mentioned organisms, to which this parasite is probably allied, to the genus Trichomonas, characterised by possessing a stiff, immobile, spine-like process at one end, it seems advisable to describe yet one more, a very uncommon form, only seen two or three times. It was a slender, worm-like creature (1, Fig. 1, Plate II), with a distinct orifice at one end; at the other was a very fine, transparent stylet, quite straight and motionless; at β was an indistinct transverse line, marking a very slight constriction. An indistinct, darkish hillock projected from below the middle of the concave side. The creature moved slowly across the field with a worm-like motion, extending its α end and stretching the tip from side to side, while the body was straightened out and again flexed,

more than in the sketch. 2, same figure, depicts an object from an eosin-stained permanent preparation—an infested red corpuscle, containing an oblong parasite, at one end of which is a very distinct slender process tipped with a large knob. I have never observed any other such object.

A process of a-sexual reproduction has already been detailed; I have shortly to describe a much more complex sexual reproductive process, most of the structures pertaining to the several stages of which have long figured in my sketch-book, some even at the date of my last Report, though their significance has only recently been recognised.

I.—In many fresh blood preparations objects such as are depicted in Fig. 2, Plate II, are found, sometimes only one or two in each field, sometimes more, often none. They are clear, translucent, more or less spherical bodies, some oblong and somewhat flattened, occasionally flask-shaped (6), and then have a distinct terminal orifice; brownish-red tint; usually actively mobile, turning over and over, and oscillating about; with a sharp double contour, portions of the inner border occasionally growing brilliantly black, and then fading; sometimes a slight space can be seen between this inner border and the contained substance, over a small area (3). A large dimple may often be detected in this contained substance (1), the transparent limiting membrane not being correspondingly depressed. Often an orifice is to be seen, encircled by a thick lip, which sometimes seems to widen and swell out (4, 5). They are of all sizes, from rather larger than a red corpuscle down to a just perceptible dot. Some are quite motionless—these are usually to be found sunk to the lowest level in the preparation; here two are often found joined together (7), motionless, and occasionally a large clump, containing a dozen or more, is to be seen. In the latter case they are usually spread out, in a sheet, and the central ones may be so united with each other as to be quite indistinct. Occasionally these motionless spherical bodies are of a clear, brownish-green colour, highly refracting, and appear to contain air, or gas of some kind.

In permanent preparations stained with methylene blue and eosin these objects are found of a more or less deep blue colour; sometimes the deeply-stained periphery bounds a lighter blue substance, and the septum between a couple may be perfect, or more or less wanting. Frequently the centre is unstained, the deep blue periphery appearing as the wall of a hollow sphere (Fig. 3, Plate II).

Large phagocytes have been seen, containing one or two, rarely more, of these objects—sometimes of a greenish-blue tinge, when the patient has been treated with methylene blue. In permanent stained preparations these intra-phagocyte objects still take the blue stain, though sometimes imperfectly.

II.—Fig. 4, Plate II, shows several globular, clear, greenish, highly refracting bodies, evidently containing gas; double-contoured, with a brilliantly black inner border line; often marked with concentric circles, or portions of such. Some are perfect spheres, some oblong, oval, or flattened somewhat and so disc-like (4). 2 shows one drawn to a point, where the bright black inner contour ceases and the greenish interior passes imperceptibly into the background, without any opening being apparent. 5 seems to have an opening at one end, and about it are minute black specks, changing to whitish spheroids when out of focus. 1 appears to be

Fig. 2.

Zeiss, A, oc. 2 = 50 diameters.

PLATE III.

Drawn with the Camera Lucida.

Fig. 1.

Zeiss, D, oc. 2 = 240 diameters.

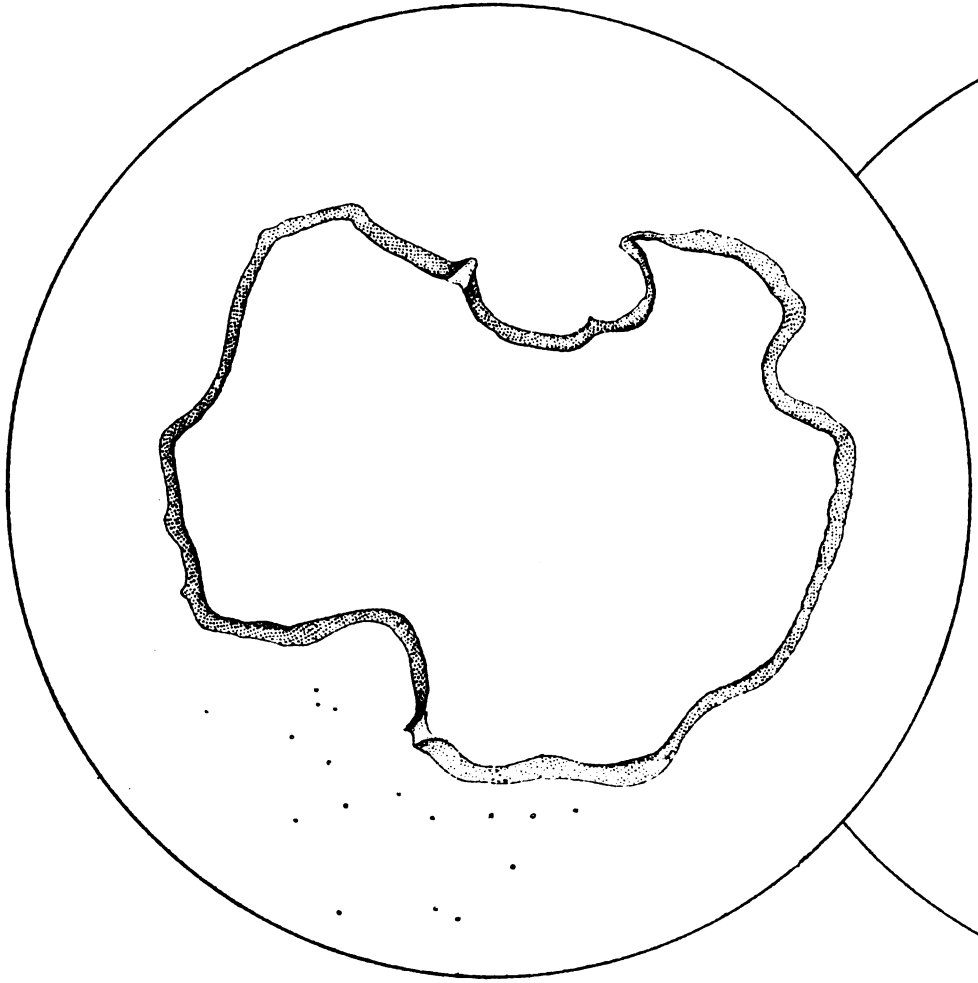


Fig. 1.

Zeiss, A, oc. 2 = 50 diameters.

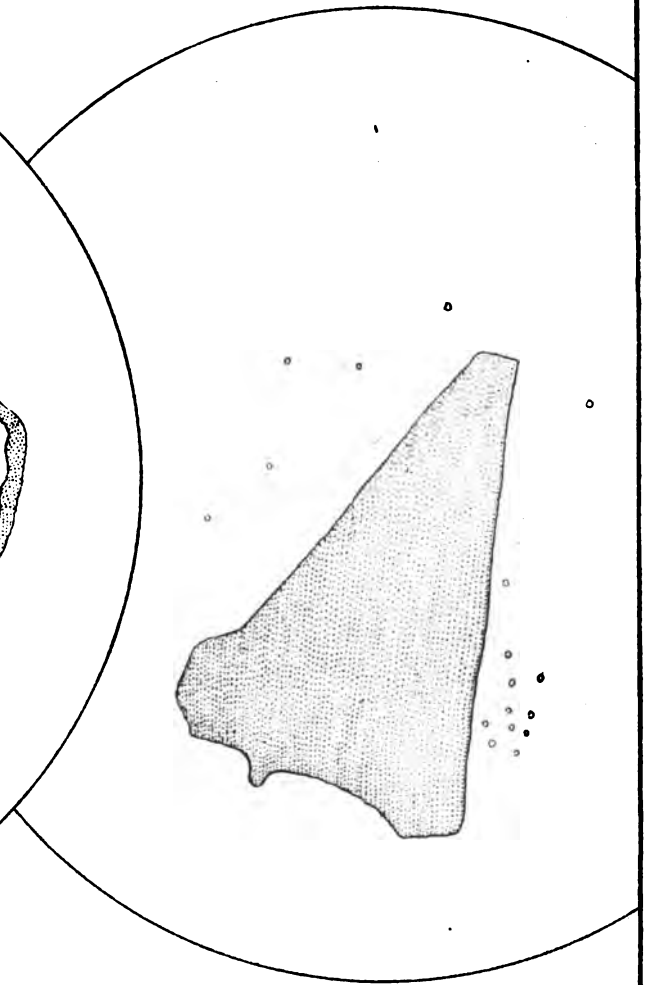


Fig. 2.

Zeiss, D, oc. 2 = 240 diameters.

PLATE IV.

Drawn with the Camera Lucida.

full of these specks. A red corpuscle partly covered by 3 shows how translucent it is. These objects vary in size from considerably bigger than those shown to the dimensions of a small micrococcus; the latter, when out of focus, appear as brilliant yellowish spots encircled by an ill-defined black area; some are oblong, hardly any quite circular. All are motionless. They may be seen to grow rapidly in size, if the temperature be not too low; two adjacent ones will unite where they press on each other, the globes seeming to melt together, and thus are formed the dumb-bells, which, sometimes stained sometimes colourless, are often found in permanent preparations. My last Report contains a drawing of one such object, the nature of which was then unknown to me. Fig. 5 shows two of these globular bodies, unstained, in a permanent preparation: one is distorted by the infested red corpuscles between which it lies; both contain numerous highly refracting bodies, the larger of which appear identical with organism I.

III.—If a preparation containing the just described objects be left for a few hours, it will then be found full of the huge blebs shown in Fig. 6 (which is a copy of a drawing made with the camera lucida from a fresh blood preparation half an hour after it was made and sealed). These appear structureless, except that there is a very sharp and clear double contour (if sufficiently magnified), and that the surface is often dotted over with buds. Under a $\frac{1}{12}$ oil-immersion lens they may actually be seen to grow, so rapidly do they do so, and in a short time the preparation is entirely occupied by one huge bleb, all having run together, except where lines of red corpuscles, etc., have prevented this. As the available space near the sealed edge of the cover-glass contracts, the bleb, unable to advance itself, sends in a series of slender outgrowths, so forming a most beautiful lace-like fringe. If magenta glycerine be run into such a preparation while there is yet room for it, it causes some contraction of the blebs, whose whitish substance stands out in vivid contrast against the magenta background; after a few days, however, they will have absorbed the stain, and then appear as deep magenta-coloured masses on a more or less colourless background—a final proof, if such be needed, that they are more than the air-bubbles for which no doubt they have often been taken. Looked at with the naked eye these blebs have a satiny sheen, and often a margin marked by parallel lines, an observation which, in the absence of a microscope, might be of service in diagnosis. Often, in a recently made preparation of fresh blood containing these air-filled blebs, the air will be found here and there displaced from the containing tissue (Plate III, Fig. 2), which is then seen to be composed of extremely delicate membranous stuff, quite transparent, and devoid of discernible structure.

IV.—Fig. 7, Plate II, depicts a much less common object, a motionless, sub-circular, flat body, large enough to be distinctly visible to the naked eye; sometimes, as in the specimen sketched, a portion of it is distended with air. Under higher magnification, the flat disc is distinctly double-contoured, and the air-distended portion is seen to be concentrically striated. It is studded with granules and small spherical bodies similar to those found in III. This particular specimen had also a large, dark-reddish mass appearing to be largely composed of coiled tubules.

V.—Fig. 1, Plate IV, shows another very large object, with a wide, curled-in, free margin, of a dark brownish-black colour. Besides this marginal portion, nothing could be distinguished;

though when acted on by magenta glycerine the before transparent remaining tissue gradually absorbed the stain, and then had much the same appearance as similarly treated III bodies. Fig. 2 shows a similar object from a stained permanent preparation; the thick, deeply stained border is really the edge of a sort of shallow, vertical rim.

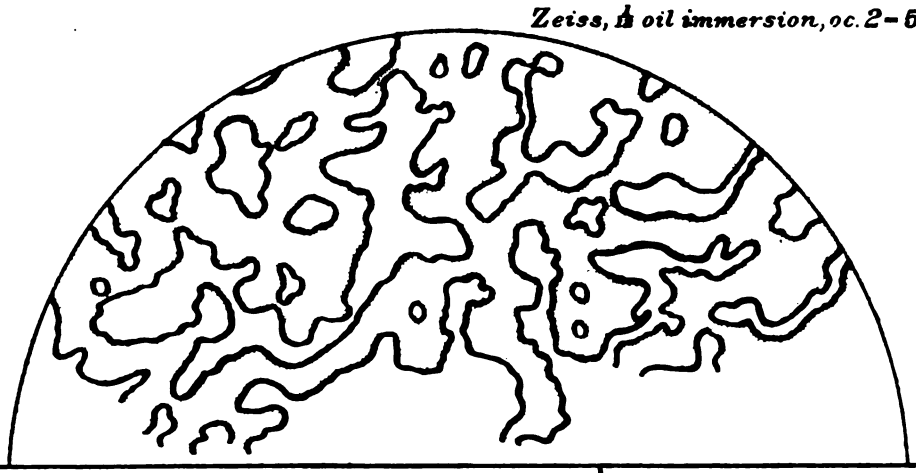
VI.—The various items figured in Fig. 2, Plate V, except *a*, are taken from a splenic film stained with eosin and methylene blue, prepared some 30 hours after the death of Case No. 1, recorded below. Each is a hollow, globular cell, like those in Figs. 3 and 4, Plate II, sending out one or more hollow processes, or buds. The stains have discriminated well the two tissues of the cells; the investing, somewhat thick, transparent sheath is stained blue (as also in the specimens shown in Plate II, Fig. 3), and it is to be observed that this takes no part in the formation of the tubular or conical processes, which, as shown by their red colour, seem to be an outgrowth only of the thin shell still remaining of the original cell material. This shell is largely intact in ϵ, less so in γ, while β has only a trace, and ζ (the two processes from which are vertically striated) none. *a*, same figure, shows four outgrowths, two wide, long, and rather thin, two only just commencing, from one of a couple of these cells conjoined in one of the dumb-bells already described. It was taken from a specimen of fresh blood from a febrile patient which had been immediately fixed in absolute alcohol, stained with methyl green, and mounted in balsam; so that the sketch shows the cell as it was immediately after being taken from the blood stream. Fig. 1, Plate V, from another part of the same preparation, shows a ramifying, lace-like tissue formed by the further growth and junction of such outgrowths from these cells. To the naked eye such a mass, in a fresh blood preparation, has much the same sheeny appearance as that presented by the structures III. Fig. 1, Plate III, depicts another but analogous branching growth; this specimen was from the blood of the case (No. 1) already referred to, taken early on the day before her death and quickly fixed and stained. Otherwise I have only found it in cultures, usually after a week or two of growth. If these vegetative growths be mounted dry a very distinct longitudinal striation becomes apparent; balsam disguises this.

VII.—Fig. 3, Plate V, depicts sundry objects of unknown nature found as yet only in one preparation, a splenic film from Case No. 1, stained with eosin and methylene blue (Löffler's). The preparation is full of long, slender, unbranching filaments, some of which are traceable into blue-stained bodies such as depicted: 5 and 6 recall to mind the pseudo-naviculæ of gregarinæ; the others have a flattened, almost membranous appearance. None show any distinct nucleus, though in some the staining is darker in patches.

VIII.—I have sketches of several other unknown objects, over which I do not propose to waste time. One, however, requires brief mention. In shape and size it much resembles the medusoid parasite, appearing to have, like this, a central cavity surrounded by a rim with an incurved margin. It differs in these respects: (1) it is of an intense red-black colour, and so opaque as to obscure its structure; (2) though often observed in freshly made blood preparations, no movements have ever been detected; (3) portions of red tubular structures have been seen projecting from the periphery; (4) bits of black shining tissue, like beads, have occasionally been glimpsed in its substance.

Fig. 1.

Zeiss, 1/12 oil immersion, oc. 2 - 530 diameters.



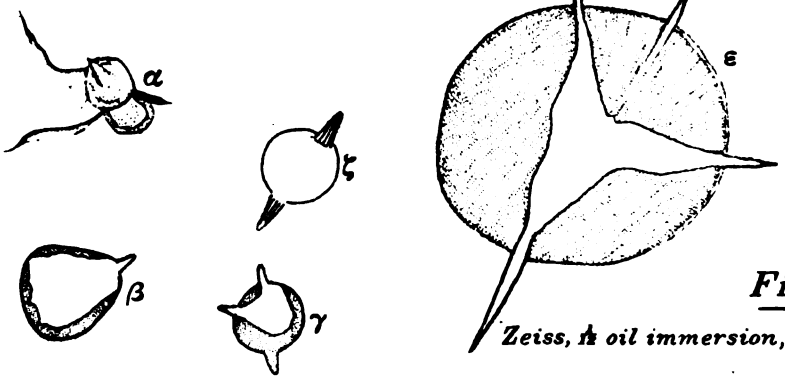


Fig. 2.

Zeiss, 1/12 oil immersion, oc. 4 - 950 diameters.

Fig. 3.

Zeiss, 1/12 oil immersion, oc. 2 - 530 diameters.

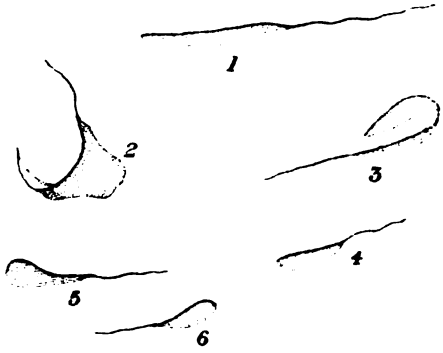


PLATE V.

Drawn with the Camera Lucida.

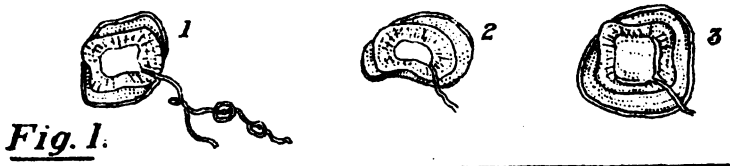
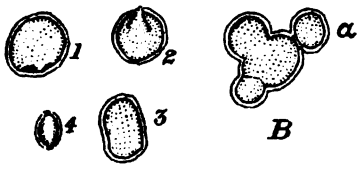


Fig. 1.

Fig. 4.



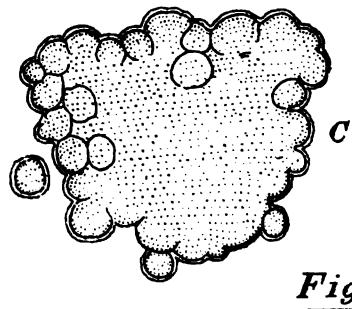
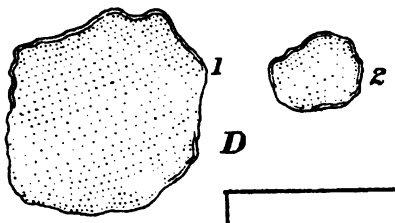


Fig. 2.



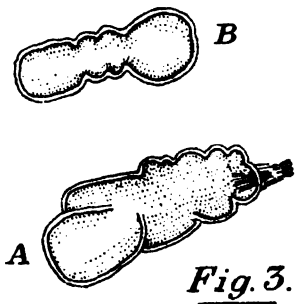


Fig. 3.

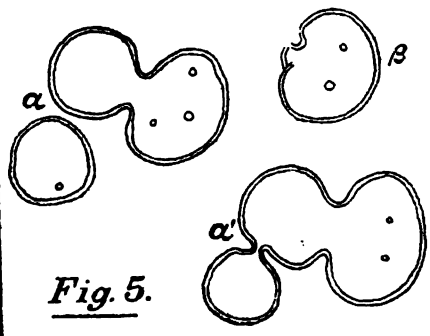


Fig. 5.

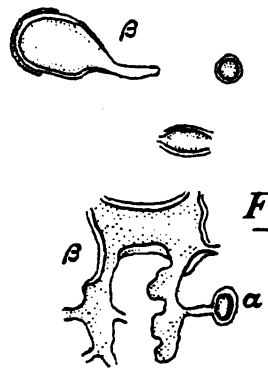


Fig. 7.

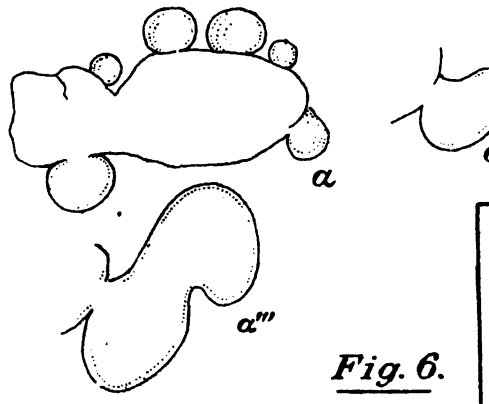


Fig. 6.

PLATE VI.

Figs. 1, 2, 3, 5, 7, 900 diameters, about;
Figs. 4, 6, 90 diameters.

Section II.—Cultivation Experiments and Results.

On 19th January 1897 I mounted three specimens of blood infested with the a-sexual forms only of the protozoon: (1) in normal salt solution, (2) in the same *plus* 0.01 per cent. cocaine hydrochloride, and (3) the same *plus* 0.01 per cent. morphia hydrochloride, intending to study the effect of these alkaloids on the parasites. 24 hours later No. 1 was full of free parasites, all most extraordinarily active, more so than I have ever before or since seen them. Three in particular, each having projecting the bright trifid organ depicted in an earlier plate, were violently active, dashing about with a speed which would have taken them out of the field in a flash, had it not been so crowded; as it was they were constantly charging into less active organisms, often displacing one a distance two or three times its own diameter. No. 2 showed only a few very active parasites; remainder were languid in their movements, and many had become spherical.

On 22nd January preparation No. 2 contained only a great number of small, almost invisible spheres, so faint that I expected them to have vanished by next evening. They did not, however, do so, and in fact remained for several days in this state (room temperature about 60° F.); on the evening of 23rd January many of them had each one bright, highly refracting spot attached to them. From day to day these bright spots increased in size and in activity, for as their bud character became apparent, fairly vigorous movements were noticeable. On 1st February the preparation contained several (five or six) organisms such as that depicted in Fig. 1, Plate VI—very much larger than the parents, but of very similar structure. A long, apparently tubular, organ, much coiled, projected from a large but not very distinct central orifice, which was encircled by a squarish, translucent, corolla-like organ, just like the expanded flexible lip of the parent, but larger; through this, as well as projecting beyond it, could be seen the concentrically striated flattened body, with a sharp double contour. The creature was tolerably active at first, 1, 2, and 3 depicting changes of shape at intervals of five minutes; but became languid from day to day, and finally motionless. The long, tubular organ was never seen to be retracted, nor to undergo any considerable changes, other than in the relation of one coil to another.

This observation suggested that the parasite might be cultivated, and I tried a variety of nutrient media, bouillon, milk, Pasteur's fluid, etc., finally selecting whey, sterilised and slightly alkaline, as the best of those which were readily procurable. I always prepared it from tinned milk.

Several test-tubes partly filled with this whey having been prepared (sterilised, etc.), all but the control were inoculated by dipping into each a platinum needle which had just before been dipped into a drop of infected blood, with all the customary aseptic precautions. They were then plugged with sterilised cotton wool, placed in the incubator, and kept there at a temperature about 40° C. for so long as the observations were continued. Of late, however, I have dispensed with the incubator, as development goes on fast enough at the ordinary living-room temperature.

The erst translucent fluid becomes more and more opaque and milky; a scum forms on the surface, growing thicker from day to day; and eventually the fluid is replaced by a more or

less dense clotted mass, in which the naked eye detects numberless fine and coarse filaments, and air-bubbles of varying size imprisoned by thin translucent films of tissue.

If a drop of the fluid be mounted in normal salt solution and examined under a $\frac{1}{12}$ oil-immersion lens, the various objects depicted in Plate VI (except Fig. 1) will be seen in abundance.

The preparation contains myriads of the bodies shown in *A*, Fig. 2, which are indistinguishable from those of Fig. 2, Plate II; some are more or less spherical, some oblong. 2 shows one with a conical eminence, with a minute orifice at the apex, from which a slender, whitish, rod-like body projected; 4 is an oval body, extremely active, with an orifice at each end. They are translucent.

If such a preparation be kept under observation, some of these actively mobile corpuscles will be found to have settled down to the lowest level, where they lie motionless. Before this, however, while still mobile, one may be seen to knock up against another, and finally to unite with it; the two may be joined by a third before they become motionless and sink to a lower level. Often one corpuscle is seen to wander from one other single corpuscle or group of such to another, perhaps trying a dozen or more before finding one with which it effects its union. Thus *a*, in *B*, Fig. 2, travelled slowly round the triple group for over an hour, apparently trying again and again to fix itself on; but ultimately it failed, and wandered off to form one of the central constituents of the quadruple group *B'*.

In the lowest level of the preparation motionless groups of all degrees of complexity, from a single corpuscle up to 50 or more, will be found. The larger groups flatten out *(c)*; the factors gradually melt together, losing their individuality more and more, until it is only at the periphery that any separate elements can be discerned; ultimately a thin sheet of tissue (*D*, 1 and 2) results, with a more or less wavy margin, and with no indication in its uniform substance of its mode of origin. The margin at first is only here and there clearly double-contoured, but it becomes more and more so, until at last it is obvious even under a low magnification. It is easy to realise how the rim of a structure like *D* grows up, and how ultimately an organism such as shown in Plate IV, Fig. 1, results.

The process just described is, however, not the invariable one; the processes of conjugation and growth are likely at any point to be associated with one of hollowing out of the corpuscles, or of the structures resulting from their union, and of their distension with air, so modifying the ultimate result. Thus, in Fig. 4 are shown (1) a group of six corpuscles, two of which are hollow and air-filled; (2) a single corpuscle thus affected; (3) one such which has grown to a much larger size; (4) a body like *D*, Fig. 2, almost entirely distended with air; and (5) a similar body only half distended.

B, Fig. 3, shows a later stage of *B*, Fig. 2, the whole coalesced group of four having become hollowed out and air-filled. *A*, same figure, depicts a similarly formed body, with more constituents; from its inferior aspect projects a curious, trumpet-shaped organ, tipped with a series of minute fimbriæ.

The culture fluid contains also an enormous number of the large, double-contoured globes shown in Fig. 5; it seems probable that these result from the growth of solitary corpuscles of the kind just described, which have not conjugated. They grow with very great rapidity, and

where two touch they melt together (a, a'). Usually several buds are to be seen on their surfaces; β depicts an optical section of one at the spot where a large bud is being nipped off.

If milk be the culture fluid used, these globular bodies may be found growing freely from masses of granular material; and being thus fixed at one point, their vital movements are more evident. Thus, in Fig. 6, a–a''' show four several stages gone through by one such globular body in the course of an hour; it flowed, in the direction of the arrow, with a slow amœboid motion, the advancing margin being marked by a very bright black contour, and a reflected concentric line inside this. Left for 24 hours this body traversed a considerable space, leaving a quantity of highly refracting *débris* behind it, the nature of which is shown in Fig. 7; it consisted of numerous smaller globules, buds probably, and apparently of parts of its own wall (β,) highly refracting tissue with sharply defined, curled-in edges, with here and there a bud still attached (a).

If a preparation containing these rapidly-growing, free, globular bodies be left to itself for 24 hours or so, they will be found to have run together into one huge bleb, indistinguishable from those already described as forming in blood preparations (Plate II, Fig. 6).

The objects described in the preceding paragraph VIII are also to be found in cultivations, together with sundry other as yet unexplained structures.

There is one considerable gap in the cycle of development thus outlined, viz., the connexion between the a-sexual and the sexual forms. In drop cultivations, prepared by mixing a trace of infested blood with a nutritive fluid, and watched for long periods, I have several times (1) seen active free parasites, usually of the crenated kind, swell out, losing their projections, and become air-filled globes; and (2) observed branches grow out from these, as shown by a, Fig. 2, Plate V. As these branching vesicular structures are known in cultivations to originate from the I bodies (Fig. 2, Plate II; *A*, Fig. 2, Plate VI), the inference that these bodies are identical with the red corpuscle-infesting parasites suggests itself. It is conceivable that the difference in environment accounts for the structural differences between them—one form growing freely and rapidly in a favourable medium, while the other has to adapt itself to the very different conditions presented, first by the red corpuscle in which it commences its evolution, and then by the blood plasma, a medium probably not very favourable. However, as yet I have observed in the former nothing like the complex structure which I have described under the name of "projectile organ," which is such a striking feature of the latter.

The following observations seem to me rather to support the suggestion just made. Having secured a pure cultivation in whey of the protozoon, I have carried the process as far as the sixth generation without observing any noticeable changes in the organisms. On 12th April, however, I inoculated a flask of sterilised bouillon (itself some six weeks old) with a drop from a milk culture which was started on 18th February; by 23rd April the erst clear, translucent, red-brown liquid had become opaque, whitish, and had a thin crust on the surface. Examining a drop of this fluid (which is a less favourable medium than milk or whey) I found a considerable number of flat, circular organisms, moderately active, which appeared identical with the similarly shaped red corpuscle-infesting parasites; however, I found none with extended organ (this, I fancy, is kept retracted if the medium be unfavourable), though in some I noticed

the dancing, bright, black specks within the oral orifice which in the blood parasites is all that is visible of the retracted organ.

On 26th April the flask of milk culture of 18th February was three-fourths filled by a mass of firm, solid crust, from the lower surface of which depended shreds looking very much like bits of white seaweed, of delicate texture; the fluid portion was very watery, almost transparent. Putting a drop of it under the microscope, I found it, as usual, crowded with the I organisms. The vast majority of these were in the motionless stage; the few mobile ones moved very languidly; doubtless the fluid was full of the products of their metabolism, and so more or less toxic. Occasionally, however, a very active, flat, circular body flitted quickly into view, and usually off the field again; and in these, as in the bouillon culture, I detected the corolla-like, expanded lip characterising the red corpuscle-infesting organism.

There were a few (comparatively) micrococci in the fluid also, or what seemed to me to be such, they being unlike anything usually to be found in a fresh culture. I therefore placed the flask in a saucepan of cold water, and this on the stove for nearly an hour; the water boiled briskly for over half an hour, and the flask steamed freely.

Next evening I examined a drop of this boiled fluid, with the curious result that the organisms seemed to have been rejuvenated. Excessive activity had replaced the languor before so noticeable; the I bodies scurried about, revolved, and turned over and over, as actively as in a quite fresh cultivation. Further, many of them had from one to three or four small, whitish spheroids projecting from their surface, precisely as described, in my last Report, of the ovulating blood parasites; and as these broke away they danced off with great activity. Another noticeable point was that a considerable number were very much larger than any I had seen before—as large, in fact, as the spheres depicted in Plate VI, Fig. 5, or Plate II, Fig. 4; and this suggests that the boiling process had caused the escape of the air from a number of such spheres, and had revealed them in their real character, of enlarged I bodies.

Cases.

Case No. 1.—Child, female, aged 12 years. Spent all her life in China, except 17 months in England; always very delicate; occasional slight feverish attacks in Kiukiang, Newchwang, Shanghai, etc.; health much improved since arrival in Chefoo in February 1896. She had that sweet, quiet, unselfish disposition which commonly makes a nurse assert that the child is "too good to live," with that entire absence of "naughtiness" which so usually indicates lack of vitality.

By a fortunate chance I happened to examine her blood one day in August 1896, to see if it were infected with the organisms I was then finding in so many people, and I detected none in hers.

On 8th and 9th December she was very feverish; on the 10th she was kept in bed and her temperature noted; on the 12th I was called, seeing that the fever did not yield to domestic remedies as on other occasions. The only symptoms were the common ones of pyrexia, except headache, which throughout her illness she was remarkably free from. No rash of any kind.

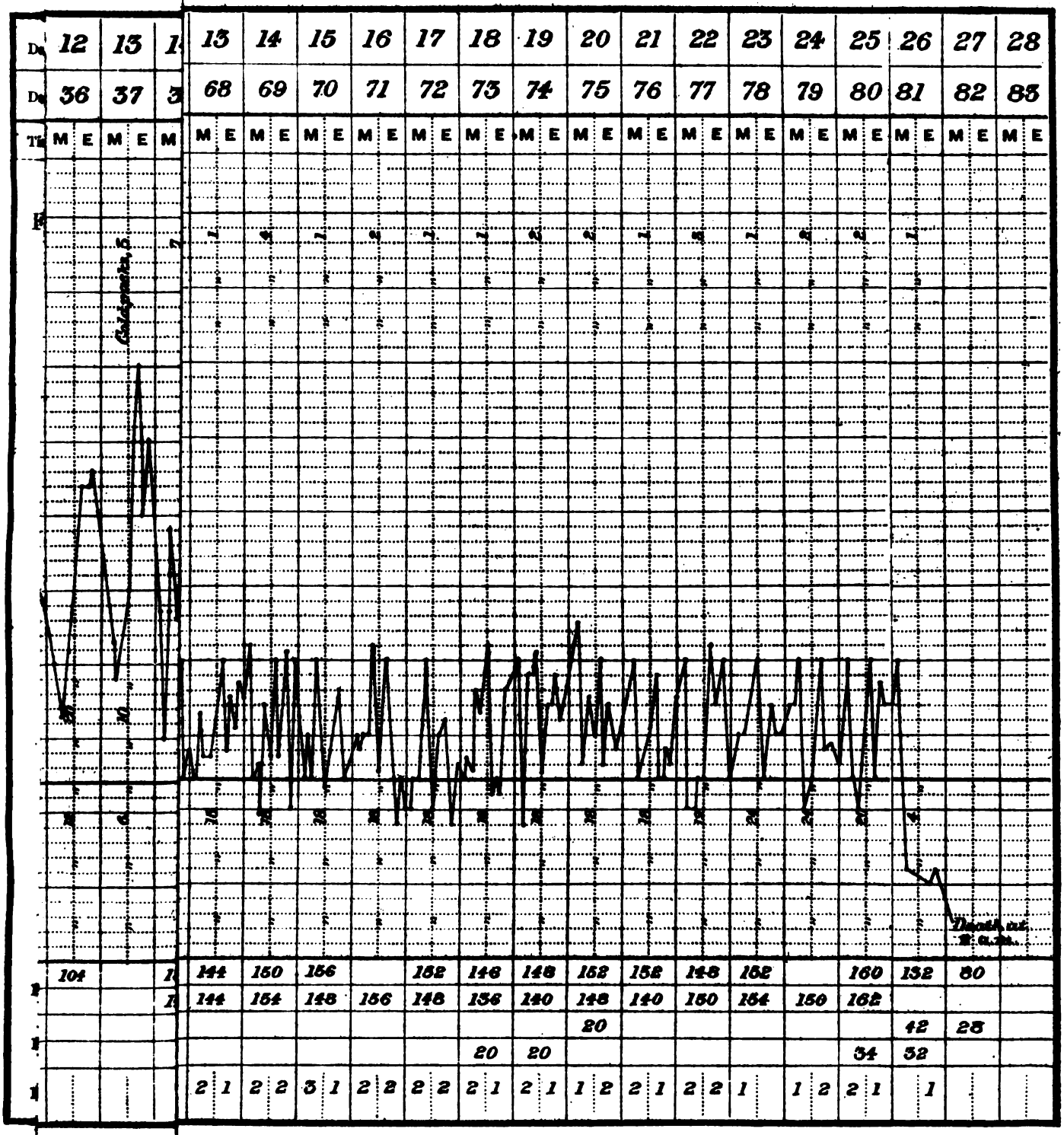
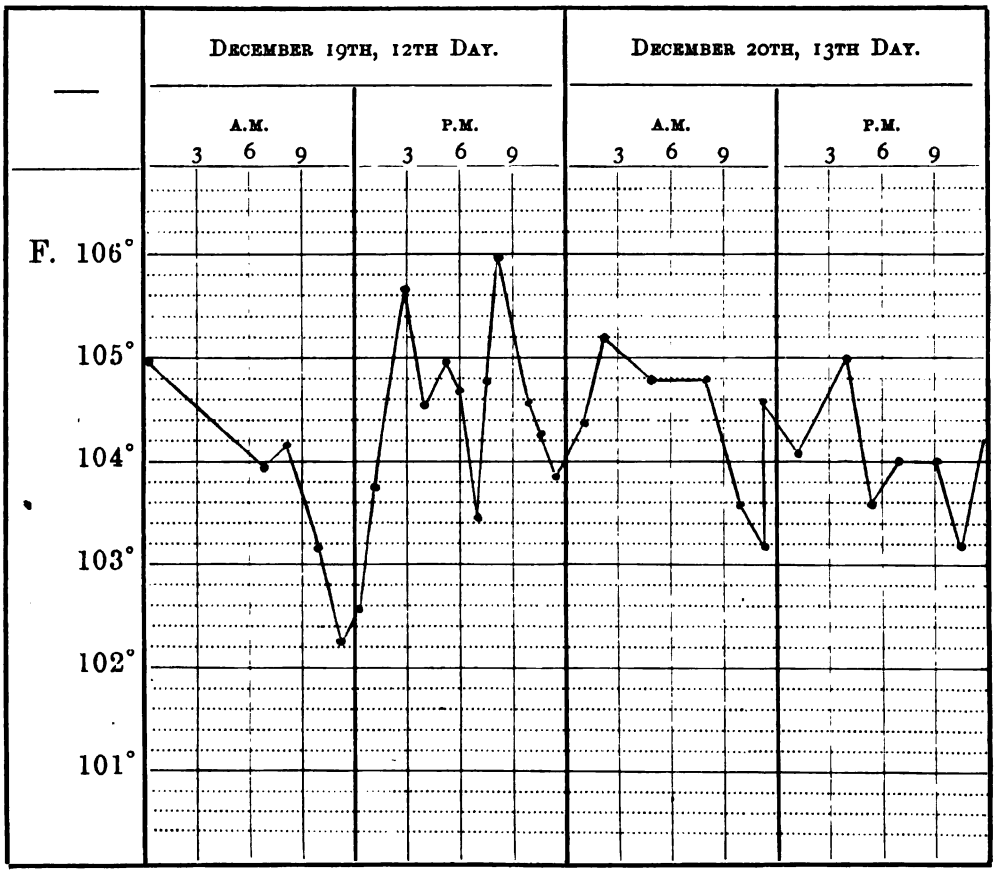

Day 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28
Day 36 37 38 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83
Temp M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E M E
Goldsmith, S.
Dismissed
104 144 150 156 152 148 148 152 152 148 152 160 132 80
144 154 148 156 148 156 140 148 140 150 154 150 162
20 42 28
20 20 34 32
2 1 2 2 3 1 2 2 2 2 2 1 2 1 1 2 2 1 2 2 1 1 2 1 2 1 1

Chart No. 2.



19th December.

Salol, 5 grains, 10 A.M.
,, ,, 1 P.M.
,, ,, 4 P.M.
,, ,, 7 P.M.
,, ,, 10 P.M.

20th December.

Salol, 5 grains, 1 A.M.
,, ,, 4 A.M. (vomited, intact tabloid).
,, ,, 8 A.M.
,, ,, 11 A.M., and soluble quinine, 5 grains, per rectum.
,, ,, 4 P.M.
,, ,, 7 P.M., and soluble quinine, 5 grains, per rectum.
,, ,, 10 P.M.

The fever persisted in spite of sundry drugs (*see* chart); the daily remissions were at first very considerable; no chills, rigors, or vomiting accompanied the exacerbations; there were no abdominal symptoms, the bowels being moved naturally once or twice a day; no roseolæ; no tenderness or enlargement of liver or spleen. She slept well, ate little worse than usual (her appetite had always been poor), and, according to her mother, seemed much less ill than on earlier febrile occasions, although she had never had such high fever as now.

Small as is the scale of the accompanying chart, it indicates clearly enough one characteristic of this fever (still more apparent on a 2-inch per diem chart, on which the hourly variations, many of which are of necessity omitted here, appear), viz., its extreme irregularity: there are from one to five sharp exacerbations per diem; these occur at any hour, and the slopes of the rises and falls vary infinitely. This portion of the large-scale chart shows well how little direct effect upon the pyrexia the salol had; and hence its natural course is to be studied in that part of the chart which is prior to 26th December, when the cold packs began to modify it profoundly.

The use of methylene blue, in small doses, was associated with a slight improvement (*see* 16th to 18th December), but it was too slight to encourage me to persist in the use of an unconventional drug, especially as I could not positively assure the parents that if pushed it might be expected to master the fever. The cases which I had already treated successfully with this drug had been of a much less severe type, and with so fragile a patient I was much afraid of its impairing her digestive power, already slight.

It soon became necessary to feed her on predigested food and to use stimulants, as the pulse failed with ominous rapidity.

The salol, which in some cases had seemed to control the fever, failed here completely; quinine only distressed her, without affecting the fever in the least; so I resumed the methylene blue, three days after discarding it,—after finding phenacetin useless; 10 grains, given at 4 P.M. on the 22nd, produced hardly any result.

The antipyretic known as "antitoxin," given in 5-grain doses, proved more effectual than any other drug in lowering the temperature; but its influence was very evanescent, and did not improve the patient's general condition in the least.

On 26th December she seemed moribund; was quite unconscious; wrist pulse, 148, could just be counted; respirations, 50, quick and shallow; passing secretions into the bed; extremities cold. As a final resource I began cold packs, having hitherto been afraid of using them on so fragile a child, especially sensitive to cold. The blood was now swarming with all the before-described phases of the parasites, all extremely active; in the permanent preparations then made I find a much larger number than usual with protruded organs. I therefore also increased the methylene blue to 2 grains every two hours, which was borne well. The cold packs proved very effectual in reducing the fever, though for several days their effect was very evanescent, so that they had to be frequently repeated. On 29th December the pulse, 140, was larger and firmer; a quiet, rambling delirium, patient constantly talking in French and English, had taken the place of the profound unconsciousness before present. Methylene blue reduced to 2 grains every three hours.

On 31st December she was much quieter, sleeping a good deal. She now improved rapidly; pulse became slower and stronger. She regained consciousness, which she never again lost until 27th February, the day before her death. On 8th January I reduced the methylene blue to 1 grain every four hours; but soon had to increase it, as the evening rise began to grow higher from day to day. Salol again proved useless in controlling the fever, and the cold packs had to be resumed on 13th January, I then suspended the methylene blue for 42 hours, to see if cold packing alone would be efficacious, as it was questionable whether the striking recovery from her desperate condition about 26th December was due to the cold applications alone or aided by the drug. The result, however, was disastrous: on the day when none was given the fever required seven cold packs to keep it within bounds, and on the succeeding day 14 were required, a number greatly in excess of any previous requirement. At noon on 15th January, therefore, I resumed the methylene blue, and pushed it; but it was several days before the ground lost was regained, and the number of packs reduced to reasonable limits. By 1st February she was so far improved that the temperature could be kept from rising above 100° F. by from one to three packs per diem, occasionally more. The methylene blue was very well tolerated, causing no nausea; the only ill effect was a little vesical irritability, which, however, did not distress her much; the rectum was similarly affected, so that it emptied itself whenever the bladder did; hence the frequent motions, liable to be misunderstood as diarrhœic.

The fever seemed to be gradually decreasing, and the patient very slowly gained strength. She was always bright and cheerful; took her food regularly and well; and the extreme frequency of the pulse was almost the only indication of danger. Anæmia was excessive, and increased from day to day, in spite of two daily rectal injections of 5 grains of citrate of iron and ammonia together with 3 grains of citrate of iron and quinine, which were retained without difficulty. As regards food, she took a great variety: predigested milk gruel, broths, Mellin's food, Benger's, raw meat, cream, etc.; oysters and a very little thin bread and butter, as her appetite improved.

On 25th February I took a drop of blood from a finger for examination; on pricking, a very thin, pinkish, watery fluid exuded, hardly like blood; a capillary tube filled with it was quite transparent. Later in the day her nose bled, rather profusely; a teaspoonful was collected for me; to it I added twice its bulk of 20 per cent. formalin solution; a small clot formed, and for several days floated on the surface, kept there by the numerous air-filled globules which studded its substance.

During the night of 25th–26th February she was very restless, semi-delirious, thirsty; she breathed very fast, and was continually yawning and sighing. At 10 A.M. the radial pulse was barely perceptible; she was semi-conscious; the jaws were tightly clenched, and it was difficult to force them apart to administer food. At 2 P.M. she was a little more conscious; predigested fowl's blood was administered per rectum, and retained. At 7 P.M. she was deeply comatose; a glycerine enema was retained; pupils widely dilated; urine passed into the bed; surface cold. At midnight the respiration fell to 28, having been about 50, and the heart beats to 80; temperature was below 95° F. She died quietly at 2 A.M.

The fatal issue in this case seems fairly attributable to the fact that the child's vitality was unequal to the task of replacing the destroyed blood tissues. The fever was daily growing

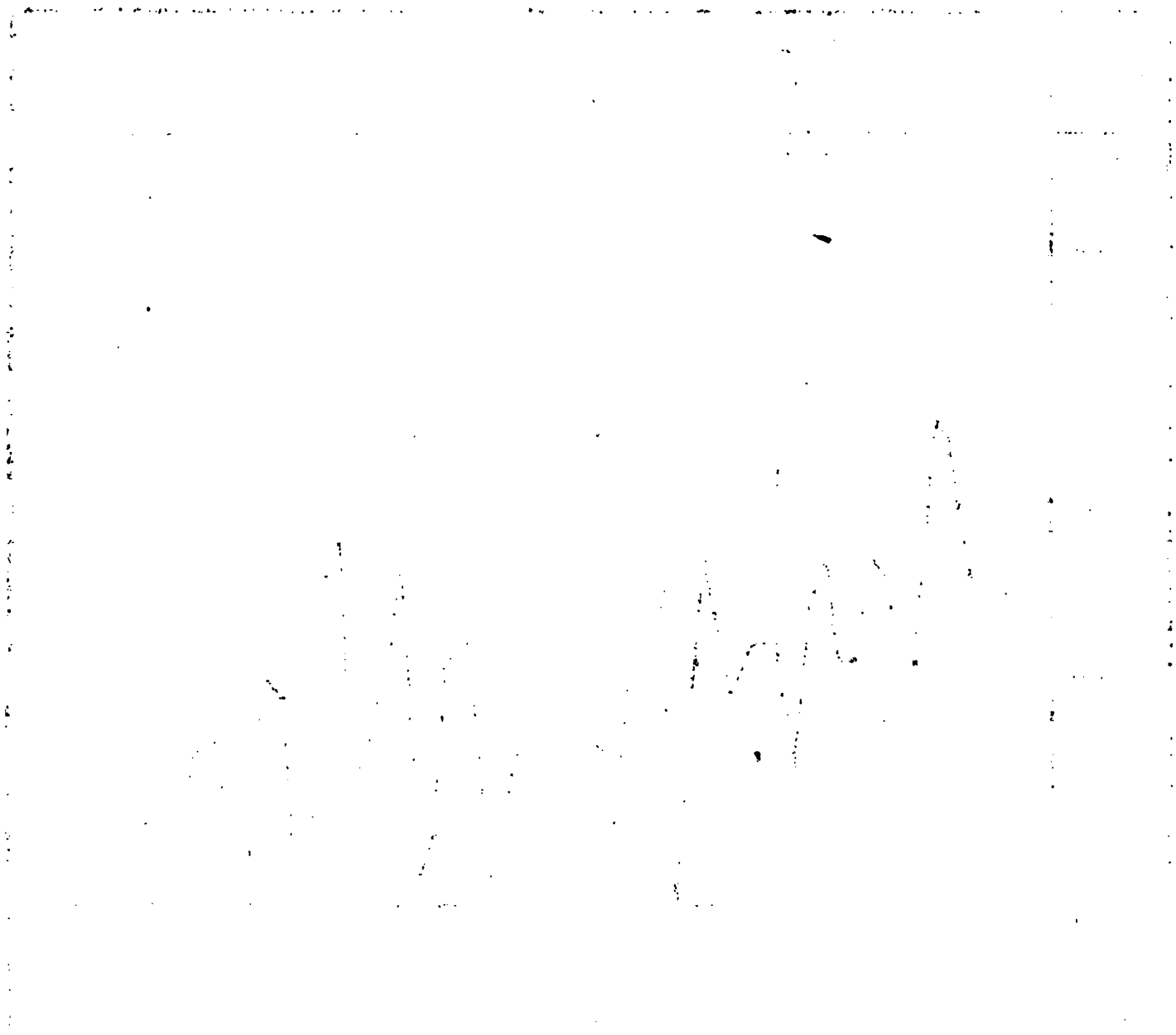
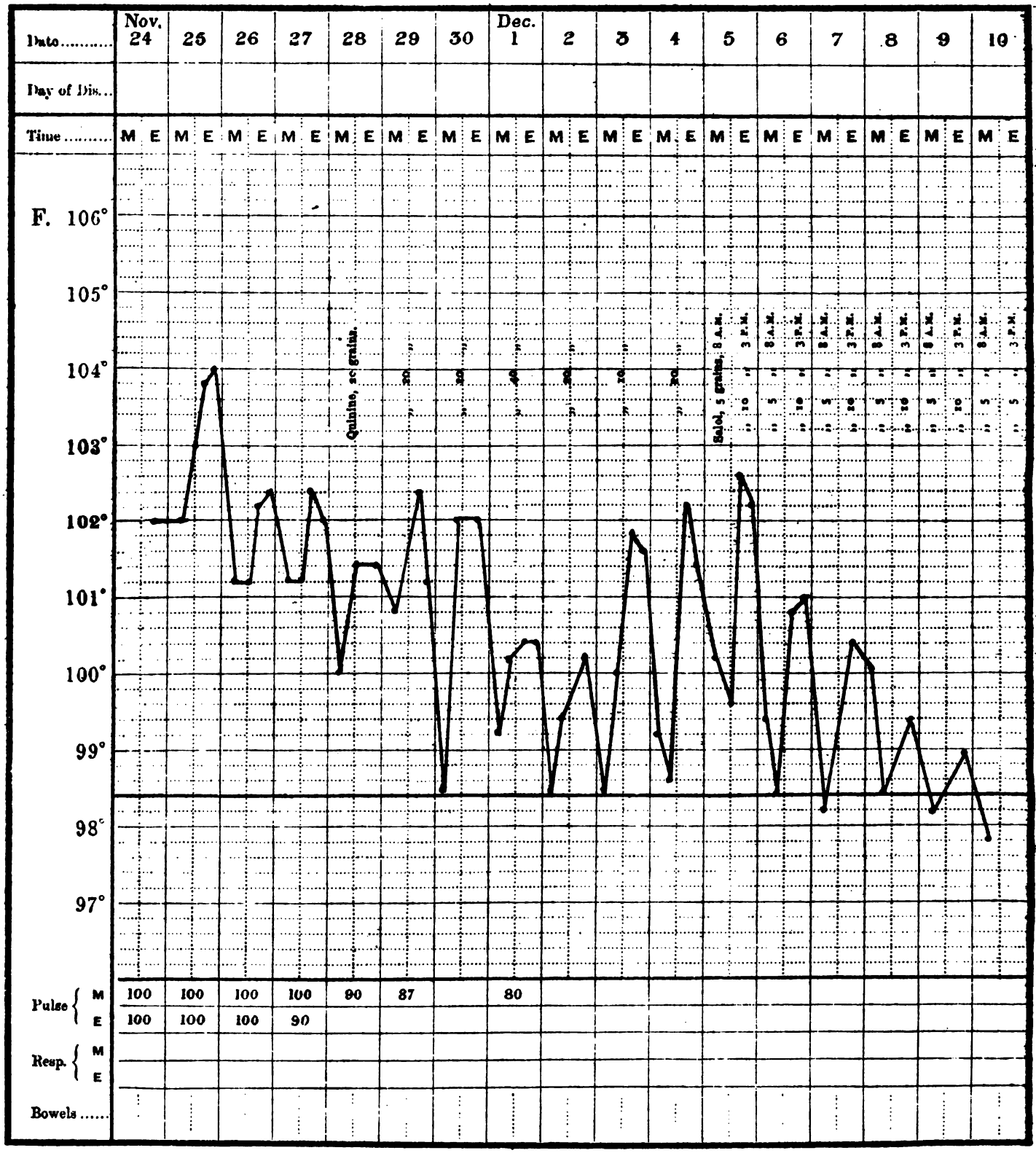


Chart No. 3.


Date
Nov. 24
25
26
27
28
29
30
Dec. 1
2
3
4
5
6
7
8
9
10
Day of Dis.
Time
M E
F. 106°
105°
104°
103°
102°
101°
100°
99°
98°
97°
Quinine, 20 grains.
Salol, 5 grains, 8 A.M.
3 P.M.
Pulse M
E
Resp. M
E
Bowels

easier to control; she was taking and digesting food well, sleeping well; only the quality of the blood steadily deteriorated, until at last symptoms of acute anæmia set in; and death appears to have been directly caused by clotting in the cerebral vessels.

At the autopsy, made at 8 A.M. on 28th February, there was still some subcutaneous fat found; the bowels were entirely healthy, no sign of present, recent, or old disease. The spleen was of normal size and weight, perhaps a little softer than normal. The liver was of natural size, but strangely white, *i.e.*, exsanguine. Only a little turbid pinkish fluid escaped from the divided splenic and portal veins.

CASE No. 2.—Female, aged 16. The patient complained of malaise, languor, loss of appetite, etc., and being found to have fever, was taken from school and put to bed. There were never any special symptoms: no rash; no diarrhœa; nothing but those due to simple pyrexia. Quinine, as shown by the chart, had little or no effect on the temperature, except that 40 grains and 20 grains, given on two successive days, kept the temperature down to 100°.2 while the patient was under the influence of the drug, and made more wretched than the suppressed fever, if let alone, would have made her; it did not prevent the usual rise next day. Under salol the fever subsided and passed off, not to return—whether *post hoc* or *propter hoc* is difficult to say. Only the organisms of the a-sexual cycle were found in this case.

CASE No. 3 is that of a member of the out-door Customs staff, aged over 60. He complained of great languor, depressed spirits, anorexia, pains in the right shoulder and right hypochondrium, etc. Pulse about 100, rather small, soft; respiration hurried, 30–36. Fig. 6, Plate II, is a copy of a drawing made from a fresh preparation of his blood.

After a few days rest he was able to return to duty. He took 4 grains in all of methylene blue, given in a cough mixture, as he had also chronic bronchitis; this may have aided in restoring him to health; he complained a good deal, however, of painful micturition.

There have been several cases such as No. 3, usually with slight fever, 100°–101°, lasting two or three to seven days, unnecessary to describe in detail.

The one other case which I have to record is that of a 6 months old baby, who suffered from a mild attack of small-pox, discrete; the secondary fever, which had been very slight, had gone, the pustules had dried up, and everything appeared satisfactory, when the evening temperature suddenly rose to 104°. Next morning I was summoned hurriedly, about 6 A.M., only to find the child dead. It had passed a quiet night, taking its food well, from the bottle, at frequent intervals; at 4.30 A.M. it seemed to be "choking," mouth was full of mucus, which was cleared out. At 6.30 A.M. the intra-vaginal temperature was 108° F. I examined a drop of blood taken, very soon after death, from the radial artery; put briefly, it was difficult to realise that the fluid was blood.

This case illustrates well what I conceive to be the chief danger incurred by the hosts of this parasite. So long as the general health is maintained, it seems to do but little, if any, harm, only lowering somewhat the standard of health, causing shortness of wind, etc. If, however, from any cause the quality of the blood be considerably impaired, it becomes a favourable medium for the vegetative forms of the parasites; they develop with extraordinary

rapidity, and soon choke the vessels. When the parasite attacks a person before free from it, it develops more or less rapidly in his blood until nearly all the red corpuscles are infected; this process is apt to be associated with fever, varying from a slight attack of a few days duration to one which simulates typhoid fever, in its duration if not in its severity.

Addendum.—October 1897.

I find that the mobile blood parasites are not protozoons, as erroneously stated above, but the zoogonidia of a fungus, probably belonging to the *Ascomycetes;* the mature organism is remarkably resistant to most staining reagents. Having at last had access to a reference library, I found in Professor DE BARY'S *Comparative Morphology and Biology of the Fungi, Mycetozoa, and Bacteria* (English translation, 1887) the information necessary to explain correctly the facts observed. For "oral aperture" must be read "germ pore," and for "projectile organ," "germ tubule"; Fig. 56, page 111, in this book, illustrating the germ tubule of a fungus spore, is strikingly like that figure in one of the plates of my previous Report which depicts the organs protruded under the influence of osmic acid. With regard to it the author says, "a mode of growth which looks peculiar and has given occasion to strange misconceptions"; that I should have furnished another of these shows how severely an investigator is hampered who has to work far away from reference libraries and other almost essential aids to research. The structure and life history of the organism above described agrees in all essentials with those of a fungus spore as described in this text-book.

The fungus itself can be readily demonstrated in many blood specimens by staining a blood film (fixed in absolute alcohol) for half to one hour in Neelsen's fuchsine solution *(undiluted);* mount in balsam.

Fowl's blood is an ideal medium in which to study this parasite, as the oval nucleated red corpuscles, non-mobile, can at a glance be distinguished from the mobile zoogonidia. If a drop of blood be mixed with one of acid methyl green solution, mounted, and sealed, the spores, although stained, may be seen conjugating, projecting their germ tubules, sprouting characteristic hyphæ, etc. When such a specimen is some weeks old, the phenomena presented by it are so complex as to be difficult to understand, unless their evolution has been watched.

DR. W. H. PARK'S REPORT ON THE HEALTH OF SOOCHOW

For the Half-year ended 31st March 1897.

THE health of the Soochow community for the six months ended 31st March was hardly up to the average. Colds and bronchitis prevailed, three residents being quite incapacitated by the latter for several weeks. In two children the bronchial inflammation descended to the capillaries, causing capillary bronchitis, and in one it did not stop here, but attacked the lining membrane of the bowels and even the meninges of the brain, causing catarrh of the bowels and meningitis, followed by death.

Two well-marked cases of neurasthenia have been encountered, one of them, strange to say, in a Chinese. For a foreigner to develop this trouble is nothing unusual, but for a phlegmatic subject of the Middle Kingdom it seems something out of the ordinary. He brought it on in the orthodox fashion, too, by overwork. Being famous as a teacher he had a great many pupils, and in addition to the drudgery of the school-room, he spent every odd moment in that most trying of work, correcting Chinese literary essays. He is now confined to his bed in a darkened room, suffering from insomnia and a thousand nameless ills, incapable of the slightest mental exertion, and unable to see his best friends.

Alarming reports of the ravages of mad dogs have come from some of the villages round Soochow, and several people, after being bitten, have come to the dispensaries for treatment, but as they would not enter the hospital the cases could not be followed up.

Malaria abounded and continues to abound. Chills and fever cease not in this district for winter or summer, spring or autumn, heat or cold, rain or shine. Among the natives ague generally takes on the quartan type, and their regular name for it is the "three-day disease," with the nickname of "big honesty." With many of them it runs for years without a break. I know one man who says he chilled from the time he was 10 years old until he was 17, and during the whole seven years the chill came as regularly at the appointed time as the rising and setting of the sun. The "appointed time" in most cases falls in the afternoon or evening, morning exacerbation being comparatively rare. Among foreigners ague is generally stopped before it has gone far enough to declare its type, but from certain indications I judge the tertian type would predominate.

There is no way of finding out the proportion of opium-smokers coming to the hospital for malaria, as many of them buy quinine at the gate without ever coming into the dispensary; but in private practice the only two cases of ague I was called to see were in men who were confirmed opium sots.

Let not those who are thinking of coming to Soochow be deterred by these remarks on ague. We have malaria here, it is true, but, as someone has said, we get so soaked with it we rarely have anything more dangerous—pneumonia, typhus fever, typhoid fever, etc., being so

far unknown among us. Another peculiarity about malaria here is it never seems to take on the pernicious form, "congestive chills" not having been encountered during an experience of 15 years. The people live to as great an age here as almost anywhere else in the world. Septuagenarians and octogenarians are "as thick as blackberries," and one old lady has recently been heard of aged 124 years, and her husband is said to have died a few years ago aged 120 years.

The health record for missionaries, too, who have resided in Soochow since early in the "seventies," is very good indeed. One couple are on the eve of celebrating their silver wedding, and the children that have been brought up here will compare favourably with those from any other place in China. We used to fancy that our children were safer here than they would be in Europe or America, on account of the freedom of China from diphtheria; but this fancied security was shown to be a delusion in 1892, when a bright little girl was taken away by this dread disease. She developed it after a trip on a native boat, and as it was at first unrecognised, she lived for some time in free intercourse with all the rest of the children of the family, and yet not one of them contracted diphtheria. In the light of facts like these, when children remain immune after their use, too much credit should not be given to prophylactic serum injections.

DR. HENRY LAYNG'S REPORT ON THE HEALTH OF SWATOW

For the Eighteen Months ended 31st March 1897.

BUBONIC PLAGUE.

EARLY in the spring of 1896 this disease appeared for the second year in succession in the towns of Ch'ao-yang and Hai-mên, spreading to several of the surrounding villages. The epidemic raged with great virulence during the months of April and May, gradually subsiding in June; so that by the middle of July the disease, although still present, had ceased to exist in epidemic numbers.

A very moderate estimate of the number of deaths in Ch'ao-yang would be 2,000.

A foreigner who was living in Hai-mên at this time told me that the deaths there numbered at least 1,200, and that during the height of the epidemic many people fled to the hillside and camped out. After visiting the camp, he decided to remain in the town, and after some difficulty persuaded the members of his household to do the same. No death occurred in his compound. He described the camp as most disgusting, the total absence of all sanitary precautions rendering it almost unbearable.

In the port of Swatow cases of plague occurred, but never in sufficient numbers to amount to an epidemic. The disease showed itself in the same districts as in the previous year, and often in the same houses.

The disease has not shown any signs of spreading to the districts north and north-east of the port, the infected area in both years being to the south-west. From reports now to hand, we shall probably find it again epidemic in 1897 in the districts to the south-west and south-east.

I give notes of a few cases seen personally, with some particulars which show clearly how the infection may remain attached to a house and which prove conclusively the evil results that may follow on the neglect of the simplest sanitary precautions.

House infected in 1895. Early in 1896 a young woman died of plague, and the remaining members of the household removed to another place. After this the house stood empty for two months. It was then rented by a clerk and his family; previous to his taking possession a pretence had been made of cleaning the house. I was called to see the amah, whom I found had been ill for some days with bubonic plague; she had high fever, continuous vomiting, and a large bubo in the left cervical region. The wife had fever, and had a miscarriage at third or fourth month. A native doctor was in attendance on the wife. A child of 4 years of age had high fever, with a temperature of 104°; and the husband himself was in a terribly excited and nervous condition, with fever and temperature of 103°.5. This, in the husband's case, was the onset of a fatal attack of plague.

On visiting the house the following day the condition of affairs was much the same, except that the husband informed me that the native doctor had left the placenta in the womb and that he was trying to persuade his wife to accept of the services of a foreign doctor.

On the 3rd day I received urgent letters asking for my assistance, and accordingly, on the 4th day, I removed the adherent placenta, the husband lending me valuable help, although he was at the time practically dying of plague. No servants could be obtained; so that all fell upon the husband, who was in sore distress. On this day the amah died and they left the house, taking refuge in that of a friend. The husband died on the 6th day; the wife and child recovered.

A woman died in the same bed and in the same house in which her daughter had died the previous year. In this case there was no sign of a bubo until the 9th day.

Cases occurred in two houses which were situated one on either side of a house whose inmates suffered severely last year.

Two children were seen in one house in a street infected last year. An attendant was obtained for them, and the healthy members of the household were removed. Result: one child died, one recovered, and no other member was attacked.

Such cases might be multiplied, but these are sufficient to show that most of the sufferers this year (1896) were victims of the neglect to carry out the simplest rules of cleanliness.

The following case is interesting as one of inoculation and as showing the suddenness of the onset of the bubo; the same history of sudden onset I have heard on several occasions:—

Case seen in the English Presbyterian Mission Hospital.—At the point of entrance of the poison was a large, black, sloughing sore; it was on the outer side of the left ankle. A large bubo appeared in the femoral glands of the same leg, accompanied by high fever, vomiting, etc. Patient stated that he was sleeping out on the road when he felt as if he had been suddenly stabbed in the thigh, and on feeling with his hand, discovered a painful gland, of the presence of which he had no previous knowledge. Patient, an adult male, died.

Epidemic Influenza.

The theory that this is a "marsh malarial fever," if tenable, would place malarial fevers in the category of infectious diseases, a position to which they are not entitled. That influenza is an infectious disease is now well proved; true quinine is the most useful drug to administer in the tropics, and from what one reads it stands high in the opinion of our *confrères* in Europe. In this portion of South China the common form of malarial fever is intermittent, chiefly tertian, often quotidian, and rarely quartan; remittent and continued fevers are very far below in order of frequency.

A very mild attack of influenza, unaccompanied by catarrhal symptoms, is hardly to be diagnosed from slight febricula or slight malaria.

Catarrhal symptoms, occurring as they do in some 50 per cent. of the cases, are of no mean diagnostic value; but the chief point, as far as my experience goes, is the amount of physical and nervous depression, which is in influenza, as a rule, out of all proportion to the

severity of the other symptoms, taking the case of an adult and the disease as met with in adult life.

One not unfrequently meets with cases of influenza without catarrhal symptoms in which the temperature never rises much above 101°, and in which the duration of the febrile period of the attack lasts only for two or three days, but yet it may take the patient many days to recruit his strength, whereas many persons with a similar febrile attack due to malaria would hardly consider themselves sick. In these cases microscopic examination of the blood is useful, not only from a diagnostic point of view, but also as a guide to treatment and to the deciding of the question whether or not the patient be confined to bed.

With all that is now known of influenza and its probable specific bacillus, to attribute it to malaria is a retrograde step. It is not many years since it was repeatedly stated that typhoid fever was extremely rare in China. The idea that all remittent fevers are of malarial origin is still hard to die, as witnessed by the expression "typho-malarial fever." How far residence in a malarial climate, and therefore possible malarial infection, affects the course of diseases as we know them in non-malarious countries, is a point about which more requires to be known.

The following cases all occurred in one house:—

The Chinese amah had been to her home up country to bury her mother, aged 80, who had died from influenza. She returned on 7th March, and on 8th March she was ailing, and on 9th March was confined to her bed with fever; temperature range 100° to 101°.5, with cough, muscular pains, and running nose and eyes.

9th March.—A child, 7 months, was taken with slight fever and catarrhal symptoms; temperature fell to normal on 11th March, and child appeared quite convalescent on 12th March. Temperature rose again, and child passed through a long and most severe attack of broncho-pneumonia with gastro-intestinal catarrh. During this attack respiration varied from 75 to 40 per minute and pulse 120 to 150, but often I was unable to count it; the temperature, from 101° to 105°, reaching on one occasion to 106°—this was on the 5th day of the broncho-pneumonia and 8th day of influenza. On the 14th day of the illness the maximum temperature was 104°, and the minimum 100°.8. From this day steady improvement followed, attack terminating on the 20th day. Chief points in treatment were cold baths, sponging, and phenacetin in ½-grain doses; diet was chiefly white of egg, brandy and egg, and essence of beef, with a very liberal supply of cold water.

11th March.—Mother was attacked; convalescent on 13th March. Catarrhal symptoms returned on 14th March without fever.

12th March.—Nurse, aged 20, ailing on 11th March, attacked 12th March, and convalescent on the 16th. Catarrhal symptoms returned on 18th March without fever.

16th March.—Child, aged 4 years, was attacked. Temperature reached normal on the night of the 17th, but rose again in afternoon of 18th; this was the onset of broncho-pneumonia, from which the child recovered on the 25th. Catarrhal symptoms returned when the temperature was falling to normal.

17th March.—Child, aged 5¼ years. Temperature fell to normal on the 19th, in the evening; broncho-pneumonia started on the evening of the 20th, and subsided on the 26th. Catarrhal symptoms returned after temperature fell to normal.

19th March.—Child, 2 years old, passed a precisely similar attack, with the subsequent broncho-pneumonia; but it was found impossible to obtain a correct record in this case.

In the same house one adult had an apyrexial attack and three other servants an ordinary one.

At about the same time two other households passed through the same experience—adults undergoing a short attack of three or four days' duration, and children all suffering from subsequent broncho-pneumonia.

In the Seamen's Hospital the following cases were admitted:—

Alcoholism	1	Gout	1
Bronchitis	1	Influenza	1
Chronic diarrhœa	1	Injury to scalp	1
Compound comminuted fracture of base of skull	1	„ wrist	1
Diarrhœa alba	1	Intestinal obstruction	1
Eczema	1	Jaundice	1
Facial erysipelas	1	Orchitis	1
Fracture of both thighs	2	Pneumonia	2
„ one thigh	1	Remittent fever	1
„ tibia and fibula	1	Small-pox	2
Gastric ulcer	1	Sprue	1
Gonorrhœal rheumatism	1	Typhoid fever	4
		Urethral stricture	2

Dr. B. STEWART RINGER'S REPORT ON THE HEALTH OF CANTON

For the Year ended 31st March 1897.

On reviewing my notes of the cases of sickness which occurred among the foreign community at this port during the past 12 months, I find that fevers of different kinds hold a prominent position. The endeavour to classify these, however, is attended with some difficulty, and with the present statistics it is impossible to say how far the locality and climate have impressed some of the cases with a special and peculiar type. Taking a series of 25 cases at different times of the year, I find they may be arranged in the following manner:—

Remittent malarial fever	8
Intermittent „ „	6
Febricula	6
Typhoid fever	3
Typho-malarial fever	2

The typhoid cases were of obscure origin, the poison probably having been introduced with food.

Those of a typho-malarial nature were in patients of comparatively recent arrival in China, and in both instances the malarial symptoms were most marked and severe. The other malarial cases occurred chiefly among old residents in the East.

The febricula cases generally ran a course of about five to seven days, subsiding gradually, the temperature seldom rising above 102°.5 F.; and the attack was usually traceable to some exposure either to the sun, or wet, or cold. Quinine was generally administered; indeed, the sufferers, as a rule, take it themselves before seeking medical advice, though I am of opinion that some would recover without it.

A very typical case of ague was observed among the intermittents, in the person of a vigorous young adult. He had suffered several attacks of fever during a period of six weeks, originally contracted during exposure on the river. On the 2nd November I called to see him, and found him sitting up, as he had been free from fever for 24 hours. I found his temperature then 99°.4 F., and whilst talking to him I noticed a somewhat anxious expression of countenance, with a lividity of the lips commencing, and therefore advised him to lie down at once. He had not been in bed many minutes when his teeth chattered and body frequently shuddered all over; then a sudden tremor seized the limbs, and so powerful was the movement of the legs that it was impossible to control them, and the whole bedstead rattled and shook violently. The face now became pale and the lips livid; the features were drawn and wore an agonised expression. This condition continued for 20 minutes, when it gradually subsided, the pallor and lividity giving place to a red flush on the face, followed by a sensation of burning heat all over the

body. The temperature was shortly afterwards found to be 104° F. 7½ grains of phenacetin were administered in hot tea as soon as the patient could comfortably swallow, and the dose repeated in half an hour, which soon produced moisture on the skin, when 10 grains of quinine were given, and followed by 5-grain doses every three hours; with the result that violent perspiration ensued, and in about 12 hours the temperature fell to normal, where it continued for 24 hours. Subsequently the paroxysms recurred three times, but each time with less severity; then the attack terminated.

A few cases of influenza occurred in the late autumn, but no epidemic of the complaint.

Towards the end of April a case of primary parotitis in an adult male was treated; it ran a simple course, and in 10 days the patient was again on duty. Curiously enough, another case in an adult occurred on the 10th May, but as this patient lived on the opposite side of the river to the other one, and as they never met, it could not be traced to contact; and indeed in neither instance could the origin of infection be discovered, as no other cases were heard of. The second case was attended with some febrile disturbance for several days, but was otherwise uncomplicated, and recovery was complete in a fortnight.

The epidemic of plague among the Chinese in the spring and summer of 1896 was said not to have been so severe as that of 1894. I have, however, no means of verifying this statement, as reliable statistics are unattainable. No case was seen among foreigners. During the height of the disease I was several times consulted by Chinese who had no real signs of the complaint. Notably, in one instance, a Chinese gentleman, in great alarm, begged me to examine a swelling on his leg which he had set down in his own mind as the commencement of the much-dreaded fatal disease, and was very surprised at being informed it was a sympathetic enlargement of a femoral gland, due to some sore places on the foot resulting from a tight shoe, and was equally relieved at finding himself quite well in a few days, after applying a little simple ointment and a loose shoe.

Some cases of dysentery and numerous attacks of diarrhœa were treated during the hot season, mostly occurring among adults; and, as usual at this time of the year, frequent sufferers from gastro-hepatic disorders required attention, though I am glad to be able to state that no case of very serious or prolonged severity has to be reported.

Inflammation of the external auditory canal had frequently to be treated, and was sometimes found due to the presence of foreign bodies, but more often to sitting or sleeping in draughts. This latter proceeding was also in several instances productive of cystitis and vesical irritation.

Conjunctivitis proved rather troublesome among a number of patients, but all the cases terminated favourably under treatment.

An outbreak of small-pox took place in the winter months. The first case was apparently contracted in Japan and was a mild attack. The second case was very severe and confluent, and probably taken through close contact with Chinese passengers on a river steamer. The patient had not been vaccinated for more than 30 years. The temperature ran high and the eruption was very copious, covering the whole of the trunk and limbs from the crown of head to the soles of the feet. The eruption was preceded in several parts of the trunk by a bright erythematous rash, particularly noticeable in the region of the axillæ, loins, and lower part of the abdomen.

The mucous membranes of the nostrils, lips, tongue, mouth, and throat were also affected, and the eyelids were closed for several days. Some delirium occurred at the end of the first week, with great restlessness at night; these conditions were treated with sulphonal and antipyrin.

This patient's condition subsequently became most distressing: he was much troubled with vomiting, swallowing was painful and difficult, a portion of each mouthful of liquid returning through the nostrils; a dry cough also gave some trouble, and the circulation was feeble. On the morning of the 11th day of the eruption he died quite suddenly from heart failure: having raised himself in bed to drink a glass of milk, he expired in the act, without a word.

The volunteer who nursed him carefully throughout the disease was immediately vaccinated, with success, and subsequently took charge of another case and accompanied him to the Small-pox Hospital in Hongkong, and entirely escaped the disease; but I regret to say that he contracted typhoid fever at the end of March, and is still under treatment for that complaint.

One or two more mild cases of small-pox were seen and transferred to the Small-pox Hospital in Hongkong.

All unprotected residents were now revaccinated, with the satisfactory result that the disease did not spread, and no epidemic occurred in the foreign community. I should here like to record the very favourable results following the use of Saigon calf lymph, fresh supplies of which were frequently obtained for me by Messrs. A. S. Watson & Co., which I found thoroughly reliable.

A fatal case of septic pneumonia, following a poisoned wound of the middle finger of the left hand, took place early in June. The patient noticed a small, painful, yellow spot on the dorsal aspect of the finger, which he pricked with his pocket-knife, without relief, however; and a day or two later presented himself with the hand acutely inflamed. I laid open the finger freely, letting out some flakes of pus and blood, fomented the limb with carbolic lotion, dressed the wound antiseptically, and kept the patient in bed. The temperature rose to 104°.8 F. that night, and in the morning there was some pain and other evidence of pneumonia in the right lung, which spread gradually till the whole organ was involved, back and front. Rusty coloured expectoration soon commenced, and the general symptoms increased in severity till the temperature rose to 105°.8 F., and the purulent discharge continued from the wound. Brandy, eggs, milk, and broths were administered every hour. Carbonate of ammonia and spirit of chloroform were also exhibited in frequent doses, and iced water applied to the head, whilst quinine and antipyrin were the drugs employed with the hope of reducing temperature. All means failed, however, and the patient, completely exhausted, died on the evening of the 7th day of the illness.

Four births and two deaths have to be recorded, the one from pneumonia and the other from small-pox, as reported in detail above.

Through the courtesy of the medical staff of the Canton Chinese Hospital, I have been invited to attend the interesting practice of that institution, and operation cases have from time to time been placed in my hands, among which the following notes of supra-pubic lithotomy for the removal of a vesical calculus of unusual dimensions may prove interesting.

A Chinaman, aged 24, had been suffering for 14 years from symptoms of stone, and latterly his health had quite broken down. Examination showed the presence of a large stone,

which it was considered advisable to remove by the supra-pubic method. Therefore, the patient having been placed under the influence of chloroform, the bladder was filled with a weak solution of warm boracic acid and the base of the penis ligatured. An incision 4 inches long was then made, from the pubes towards the umbilicus in a straight line, and carried down through all the tissues, till the external coat of the bladder was exposed. At this point in the operation a loop of stout silk was passed through the muscular wall at the upper portion, and the organ steadied by an assistant holding the silk thread firmly and drawing it gently upwards towards the umbilicus; this proceeding not only fixes the bladder, but keeps the peritoneum out of harm's way. An opening was now made into the bladder, from above downwards, and by the aid of forceps, and the further assistance of a finger in the rectum, which had not been distended previous to the operation, the stone was gradually withdrawn. It weighed 11½ ounces, and measured 5½ inches by 4 inches. The section presented the appearance of a phosphatic calculus with alternate layers. For two days after the operation the temperature rose to 101° F., then subsided, and the healing process continued steadily, but slowly.

At the end of five weeks the urine had entirely ceased to flow from the wound, which had closed up, and in seven weeks he left the hospital apparently cured. Some time later, however, he returned, very ill, stating that after remaining with some friends in the city for several days he left for his home in the country, but during the exposure on the passage boat the wound reopened. He was found to be suffering from fever and hæmorrhage from the bowels, and was thereby so reduced that he died at the end of two weeks. It seems probable that had he remained quietly in the hospital a little longer, till the cicatrix had become firmer, his recovery might have been permanent.

Dr. A. SHARP DEANE'S REPORT ON THE HEALTH OF PAKHOI

For the Half-year ended 31st March 1897.

The health of the foreign residents and native population during the above-mentioned period has been generally satisfactory, and no special occurrences have to be reported.

Foreign Residents.

Among the diseases treated in this section of the population may be mentioned asthma, bronchitis, and phthisis; dysentery and diarrhœa; congestion of the liver and kidneys; remittent fever; laryngitis; conjunctivitis; and carbuncle. None of these, however, presented peculiarities calling for detail.

The birth of a male child was recorded during February.

Native Population.

As far as I can gather through careful inquiry from native sources, the town and surrounding country have been exceptionally free from disease of an epidemic type.

From one of the steamers a fireman was landed suffering from small-pox of a seriously confluent variety. He was conveyed to a village a short distance outside the town, where he died the same afternoon. Fortunately, the disease was not communicated to the people on shore, although brought in among them at the time of year they are most susceptible to variola.

The sanitary condition of Pakhoi, though admitting of much improvement, is certainly very much better than it was 10 years ago. The lower street is kept in better order, and the latrines along the higher level of the town are emptied more regularly.

The appended table shows that the total rainfall for the six months amounted to 16.89 inches, the equivalent of about 1,705 tons of water to the acre. The fall was distributed at equal intervals, so that the soil was kept moist; hence cracking of the surface of the ground and air laden with dust could not occur. The wells also held a good supply of water, and shallow ponds and marshy places were not dried up.

Meteorological Table, October 1896 to March 1897. (Latitude, 21° 29′ N.; longitude, 109° 6′ E.)

Month.	Thermometer.			Rainfall.	Month.	Thermometer.			Rainfall.
	Highest.	Lowest.	Mean.			Highest.	Lowest.	Mean.	
1896.	°F.	°F.	°F.	*Inches.*	1897.	°F.	°F.	°F.	*Inches.*
October	94	64	77.62	2.05	January	80	42	61.60	1.13
November	83	57	70.30	9.80	February	77	40	53.10	1.88
December	82	42	63.06	0.16	March	85	50	66.50	1.87

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CHINA.

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FOR THE HALF-YEAR ENDED 30TH SEPTEMBER 1897.

54th Issue.

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Nov. 27. '98

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AND SOLD BY

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INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4— * * * * *

I am, etc.,

(Signed) ROBERT HART,
I. G.

THE COMMISSIONERS OF CUSTOMS,—*Newchwang*, *Tientsin*, *Chefoo*, *Hankow*, *Kiukiang*, *Chinkiang*, *Shanghai*, *Ningpo*, *Foochow*, *Amoy*, *Swatow*, and *Canton*.

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DE L'ATRIPLICISME (INTOXICATION PAR L'ARROCHE)

Par le Docteur J.-J. MATIGNON,

MÉDECIN AIDE-MAJOR DE 1ère CLASSE DE L'ARMÉE,
ATTACHÉ À LA LÉGATION DE LA RÉPUBLIQUE FRANÇAISE À PÉKIN.

Durant les mois de mai, juin et juillet, en 1895, en 1896 et en 1897, j'ai eu l'occasion d'étudier à l'hôpital français du Nan T'ang de Pékin, chez des gens très misérables, une singulière intoxication, résultant de l'ingestion de pousses d'arroche *(atriplex)*, intoxication sans phénomènes généraux, principalement caractérisée par un œdème localisé à la face, aux mains, aux avant-bras, par des troubles de la motilité, de la sensibilité, de la circulation, par des troubles trophiques, cutanés, souvent compliqués d'eschares plus ou moins étendues des régions œdématiées.

L'*atriplex* est une plante de la famille des *Chénopodiacées*; ses fleurs sont polygames. Les fleurs mâles sont pourvues d'un périanthe à trois ou cinq divisions et d'un nombre égal d'étamines. Les fleurs femelles ont le périanthe remplacé par deux bractées, plus ou moins cônées à la base, s'accroissant beaucoup sur le fruit qu'elles enveloppent étroitement. Les fleurs ont deux styles réunis à la base. La graine est lenticulaire, verticale.

Les feuilles sont élargies, plus ou moins blanches farineuses. La variété *atriplex littoralis* se trouve en Mongolie et dans le nord de la Chine et se présente sous deux formes.

Dans l'une, la tige est simple, les feuilles étroitement lancéolées, entières ou presque entières: c'est l'*atriplex angustissima*. Dans l'autre forme, la tige est rameuse, dressée, les feuilles sont lancéolées, bordées de dents profondes, aiguës: c'est l'*atriplex serrata*.

C'est la seconde forme que l'on rencontre à Pékin et aux environs et que les Chinois appellent *lao-li-ts'ai* (落藜菜) et plus au nord *houi-ts'ai* (茴菜).

L'atriplex croît en abondance dans les cours, les jardins, et le long des murs des maisons chinoises. Les sommités de la plante jeune sont consommées par les Chinois en guise d'épinards; ce sont surtout les Chinois du peuple, et plus particulièrement les mendiants, qui en font usage. Le goût en serait assez agréable, au dire des Américains qui apprécient beaucoup ces pousses d'arroche.*

Les Chinois mangent cette herbe à peu près crue, soit englobée dans la pâte de petits pains, à peine cuits à la vapeur, soit sous forme de salade, soit plutôt roulée dans des sortes de crêpes.

Tous les malades que nous avons observés nous ont déclaré avoir mangé cette plante en moyenne 10 à 20 heures avant que les premiers phénomènes toxiques n'aient paru. Beaucoup de ces malades m'ont apporté des spécimens de la plante consommée.

* "On cultive en Europe, comme légume semblable à l'épinard, l'*atriplex hortensis* (arroche des jardins; bonne-dame), qu'on croit originaire de la Tartarie . . . On en a obtenu plusieurs variétés à feuilles vertes, à feuilles jaunâtres, et à feuilles rouges. L'arroche à feuilles blondes passe pour être la meilleure."—J. VESQUE, *Botanique agricole et industrielle.*

Cette intoxication est très connue des Chinois, car elle est très fréquente, mais leurs livres de médecine n'en font aucune mention.

Toutes les personnes qui consomment cette plante ne sont point exposées aux accidents toxiques, pour deux raisons: d'abord un certain nombre d'entre elles peuvent avoir une quasi-immunité, mais surtout les pousses d'atriplex ne sont pas toutes toxiques.

De l'enquête à laquelle je me suis livré, tant auprès des malades qu'auprès des médecins chinois, il résulte que les personnes qui ont la précaution de bien laver cette plante, de la faire cuire, et d'élaguer les feuilles présentant une coloration rouge, sont à l'abri des phénomènes d'empoisonnement.

Certains médecins chinois attribuent les phénomènes toxiques à l'ingestion de feuilles présentant une coloration rouge surtout au niveau du pétiole. Jamais, dans les plantes-spécimens portées par les malades, je n'ai rencontré ces feuilles. J'en ai souvent observé dans la campagne; mais les feuilles présentant cette coloration sont déjà larges et dures, et les Chinois ne consomment que les sommités de la plante. D'ailleurs ce fait que le lavage rigoureux de la plante et sa cuisson préviennent les accidents, doit nous faire supposer que le poison n'est point fabriqué par la plante elle-même, mais doit, plus vraisemblablement, être dû à un parasite.

Celui-ci est un parasite, sorte de petit puceron, moins volumineux qu'un grain de chènevis, de teinte jaune verdâtre, et dont, très souvent, on rencontre des colonies dans les sommités de la plante. Beaucoup de médecins chinois attribuent les accidents aux poisons sécrétés par ce parasite et déposés sur les feuilles.

Si ces alcaloïdes ne peuvent être sûrement détruits par la cuisson, ils seront, ainsi que les parasites, entraînés par l'eau de lavage et, de la sorte, les accidents toxiques seraient évités: c'est là un fait que démontre l'expérience quotidienne.

Le poison ingéré, les accidents se montrent avec une régularité quasi-parfaite, chez tous nos malades.

Les premiers cas d'intoxication se produisent en général au milieu du mois de mai.

Les patients appartiennent presque tous à la classe des mendiants, société aussi misérable que débilitée, vivant de tout ce qu'elle rencontre sur sa route. Ces mendiants sont souvent vus, disputant aux chiens les os et les légumes jetés à la rue; on comprend, alors, qu'ils ne poussent pas le raffinement jusqu'au lavage méticuleux des pousses de *lao-li-ts'ai* dont ils sont très friands, surtout quand ils ne peuvent manger autre chose.

Il y a, en effet, un rapport à établir entre la fréquence de ces cas d'empoisonnement et le plus ou moins grand état de misère de la ville. En 1895, à cause de la guerre sino-japonaise, il régna à Pékin une quasi-famine; les vivres étaient hors de prix: plus de 20 cas d'intoxication, par l'atriplex, furent traités à l'hôpital du Nan T'ang. En 1896, la misère est moins grande: nous n'observons que deux cas à ce même hôpital. Des constatations identiques ont été faites par nos religieuses dirigeant des dispensaires, dans et hors de Pékin. En 1897, un seul cas est observé, chez une femme ayant une certaine aisance, mais qui avait mangé, par gourmandise, des pousses d'arroche.

La *position sociale* joue un rôle très important au point de vue étiologique. L'importance de l'âge est insignifiante. J'ai vu plusieurs enfants de 8 à 10 ans intoxiqués. Il n'en serait pas de même du sexe: toutes mes observations, moins une, portent sur des femmes. De

l'enquête à laquelle je me suis livré, il résulte que les Sœurs françaises, qui ont vu beaucoup de malades, n'ont eu qu'un seul homme à soigner. Le sexe féminin présenterait-il une réceptivité spéciale à ce poison? nous ne le croyons pas. Cette fréquence de l'intoxication doit probablement résulter de ceci:

Dans cette classe misérable et mal nourrie des mendiants, la femme est toujours plus débilitée que l'homme, du fait des grossesses répétées et de l'allaitement; de plus, comme son rôle social est très inférieur à celui de l'homme, elle mange ce que ce dernier veut bien lui laisser, aussi doit-elle suppléer au manque de riz et de millet, par tout ce qui lui tombe sous la main: de là, une consommation assez considérable de pousses de *lao-li-ts'ai*. Ce qui montre bien encore le rôle important de la misère physiologique, c'est qu'il est rare de voir tous les membres d'une même famille, ayant absorbé ce poison, être intoxiqués. Seuls les plus débilités, les plus malingres, jeunes ou vieux, sont atteints.*

On peut voir des épidémies de quartiers: les habitants d'une même portion de la ville s'étant souvent fournis de pousses d'arroche au même endroit.

L'*évolution* de la maladie est rapide. En général 10 à 20 heures, en moyenne, après l'ingestion de la plante, commencent à se manifester les premiers symptômes de l'empoisonnement qui sont *purement locaux*.

Une fois seulement, nous avons noté des phénomènes généraux, caractérisés par un peu de malaise et quelques bourdonnements d'oreille.

Le début est assez soudain et se fait presque toujours par les mains. Le malade éprouve tout d'abord un *engourdissement douloureux*. Les bouts des doigts se refroidissent et sont le siége de fourmillements pénibles. Les démangeaisons du dos de la main sont quasi-constantes et forcent le malade à se gratter, déterminant ainsi la production de larges ecchymoses sur lesquelles nous reviendrons. Les premiers symptômes douloureux peuvent parfois, surtout dans les cas légers, se localiser à un ou deux doigts de chaque main, et ce sont, alors, le pouce et l'index qui sont intéressés.†

Presque en même temps le sujet éprouve des fourmillements douloureux, il constate que le dos des mains d'abord, les doigts ensuite, se mettent à gonfler. L'*œdème* apparaît une demi-heure, trois quarts d'heure après le début des premiers phénomènes douloureux. Il est rare qu'il attende plusieurs heures pour se produire, et dans un cas seulement nous le voyons survenir quatre ou cinq heures après les premières manifestations douloureuses. L'œdème doit, très vraisemblablement, être le phénomène initial, résultant de la paralysie vaso-motrice de nature toxique. Les douleurs et les fourmillements sont causés par la distension des tissus, par l'infiltration qui n'est pas encore, à ce moment, perceptible à l'œil.

En même temps que l'œdème, paraît la cyanose des ongles et du bout des doigts; l'index, et surtout le pouce, sont toujours particulièrement atteints.

* Des faits identiques ont été souvent signalés dans les intoxications et BARRIER (de Lyon) en relate dans sa description de l'épidémie d'*ergotisme* qui sévit en 1849 dans les départements du Rhône, de l'Isère, de la Loire (*Gazette médicale de Lyon*, 1855).

† Ces fourmillements, ces élancements douloureux, l'œdème qui survient ensuite, présentent certaines analogies avec les accidents de l'ergotisme, décrits par THUILLIER et DODART, dans l'épidémie de Sologne (1676). Mais en Sologne ces phénomènes se produisaient de préférence aux pieds.

L'œdème s'étend rapidement, gagne la main, l'avant-bras, dont il respecte, en général, les parties antéro et postéro-internes, et ne franchit pas le coude. Son développement s'accompagne de douleurs lancinantes, exagérées par le mouvement des doigts et surtout par la position déclive de la main.

Il est très rare que le développement de l'œdème se fasse sans douleur. Nous n'avons vu le fait qu'une fois: la douleur fut nulle ou tellement légère qu'elle ne réveilla pas la malade, laquelle fut étonnée à son réveil de trouver ses mains et sa figure gonflées.

La douleur, au moment de l'infiltration œdémateuse, peut être assez légère et n'atteindre un haut degré d'intensité que lorsque le gonflement lui-même est complétement achevé.

Dès le début, la main est plus ou moins impotente, malhabile à cause de l'œdème et immobilisée par les malades, à cause de la douleur provoquée par les mouvements. Les doigts sont déjà légèrement fléchis et écartés.

Le *gonflement de la face* survient presque en même temps que celui des mains, en général quelques heures après. Il est rare que l'œdème de la figure ouvre la scène. Une fois pourtant, nous avons vu ce dernier précéder de deux jours et demi celui des mains. Tandis que l'infiltration des doigts et des mains était fort douloureuse, celle de la face ne l'est pas ou peu. Tout se borne, ordinairement, à des démangeaisons du nez, des pommettes, du menton, du front, que le malade frotte avec énergie, provoquant, de la sorte, la formation de plaques ecchymotiques.

L'œdème évolue très rapidement, tantôt il se généralise à toute la figure; parfois se localise aux paupières, aux joues, aux lèvres. Nous l'avons vu revêtir un caractère unilatéral et n'occuper que le côté droit de la face.

L'infiltration porte surtout sur les paupières, les lèvres et les joues, et en quelques heures rend le patient méconnaissable. L'œdème des paupières est tel que, pendant deux ou trois jours, il en entraîne l'occlusion complète, mettant le malade dans l'impossibilité de se conduire lui-même.

Dans certains cas très légers, l'infiltration peut se limiter aux paupières et la face est simplement un peu bouffie. Les malades n'ont éprouvé et n'éprouvent aucun phénomène douloureux, et quand on les interroge sur cette infiltration, ils répondent qui c'est une chose tout à fait insignifiante, qu'ils ont mangé des pousses d'arroche, mais que le gonflement aura disparu dans 24 heures.

Cette première période, que nous pourrions appeler *phase d'infiltration*, atteint son développement complet en 15 ou 20 heures. Il est rare de voir les malades tout à fait au début. Ils viennent alors que l'œdème existe depuis un jour ou deux, c'est-à-dire pendant la *période d'état* de la maladie (fig. 1).

Les malades se présentent tous d'une façon identique. Aussi, après quelques jours, est-li possible de faire le diagnostic sans voir leur figure, dès qu'ils mettent les pieds sur la porte de la salle de consultation. La tête, les mains sont soigneusement enveloppées dans un linge, cachées sous un tablier, précaution qui, au premier abord, paraît tout à fait anormale, au commencement de l'été, généralement très chaud à Pékin. Cet enveloppement n'a d'autre but que de protéger les régions malades de l'action des rayons solaires, qui, ainsi que nous aurons l'occasion de le dire plus loin, sont particulièrement douloureux.

FIG. 1.—Phase d'infiltration.

La figure étant découverte, voici ce que nous constatons, dans les cas typiques: La face est totalement déformée par les proportions considérables de l'infiltration cellulaire. Les paupières bouffies, distendues au maximum, sont dans l'impossibilité de s'écarter ou d'être écartées. Les lèvres épaissies, retournées en rebord de pot de chambre, proéminent en avant, circonscrivant un orifice en bouche de carpe, par lequel s'écoule une salive épaisse et visqueuse. Cette déformation des lèvres gêne la phonation et la mastication. Le nez est violacé, froid, souvent anesthésié, ecchymotique. Au front, à la nuque, aux pommettes, sur le vertex, au menton, siégent des ecchymoses, de dimensions variables, couleur lie de vin. Par son aspect général la figure répond bien au type du magot chinois, décrit dans l'érysipèle; mais la couleur rappelle plutôt celle d'un brightique. Cependant, il est rare que dans le mal de Bright l'œdème de la face atteigne un développement aussi considérable; la teinte générale dans le brightisme est blafarde, ici, elle est plutôt terreuse.

Une infiltration aussi notable des tissus de la face n'est pas de règle. Nous ne l'avons guère vue que deux ou trois fois, et particulièrement chez un enfant de 11 ans chez lequel les symptômes de l'empoisonnement dataient de 12 ou 15 heures, à peine. L'œdème de la face disparaît, assez rapidement. Aussi quand les sujets viennent, malades déjà depuis deux ou trois jours, nous ne constatons que des œdèmes peu considérables ou partiels de la figure. Tantôt, l'infiltration du tissu cellulaire sous-maxillaire fait pendre comme deux bajoues sous les os de la mâchoire. Quelquefois, une joue et la région sous-maxillaire du même côté sont seules gonflées. Une paupière peut tomber alors que l'autre est mobile: c'est un ptosis non point paralytique, mais œdémateux. Le gonflement peut intéresser la région hyoïdienne et nous l'avons vu descendre jusqu'à la fourchette sternale.

Interrogé, le malade dit ne pas éprouver de douleurs spontanées à la figure. Il n'accuse que des démangeaisons au front, au nez, au menton, qui l'obligent à se gratter. Mais, tous les patients attirent l'attention sur les *douleurs spontanées* des mains.

À un premier examen superficiel de la main, son attitude, son aspect général pourraient faire penser à un phlegmon profond. Mais cette idée est rapidement abandonnée, dès qu'on saisit l'organe malade, lequel paraît froid.

La main, bien lavée, est œdémateuse, blafarde. L'œdème est dur, élastique, difficilement dépressible, conservant peu longtemps l'empreinte du doigt. Sur le dos de la main, on note souvent un réseau veineux assez accentué. Au bout de quelques jours, cet œdème devient mou, dépressible.

Les doigts, en saucisses, comme dans les engelures, sont écartés les uns des autres et très souvent en flexion légère. La première et la deuxième phalange présentent une teinte plus ou moins blafarde. La dernière, en général, est cyanosée: sa couleur, ainsi que celle de l'ongle, est parfois d'un bleu noir assez intense.

Tous les doigts peuvent ne pas être également intéressés. Le fait est fréquent, et, dans ce cas, ce sont surtout le pouce, d'abord, l'index, ensuite, qui sont particulièrement atteints.

Il est rare que les lésions des deux mains soient identiques. Il arrive, parfois, que la main droite présente un œdème généralisé, considérable, avec de larges ecchymoses, alors que, à gauche, le pouce et l'index, seuls lésés, ne sont intéressés que d'une façon tout à fait insignifiante.

De la main, l'œdème gagne l'avant-bras et sa disposition y est assez particulière. Les régions antéro et postéro-internes de l'avant-bras ne nous ont jamais paru le siége d'une infiltration manifeste. Nous avons déjà dit, à propos de la main, que la région interne était souvent indemne, alors que le pouce et l'index étaient constamment lésés. *L'œdème se localise aux portions antéro et postéro-externes.* Il remonte obliquement sur l'avant-bras, dessinant une sorte de triangle dont la base est aux poignets et le sommet à l'épicondyle. Il ne franchit pas le pli du coude.

La disposition de cet œdème méritait d'être signalée. Non seulement il est bizarre de voir l'infiltration se localiser dans cette partie de l'avant-bras, mais il est encore singulier de l'y voir persister, malgré les lois de la pesanteur. La position déclive des mains étant douloureuse, les malades tiennent leur avant-bras en attitude horizontale, laquelle devrait, *a priori*, favoriser l'infiltration de la face postéro-interne.

Des ecchymoses plus ou moins larges siégent sur les mains et les avant-bras. Aux mains, elles occupent de préférence la région dorsale du pouce; mais elles peuvent s'étendre à toute la face dorsale de la main et remonter jusque sur les phalanges. Toutefois leur lieu d'élection est la région comprise entre le long extenseur du pouce et le tendon de l'extenseur de l'index. Cette ecchymose peut être formée d'une plaque unique ou de petites plaques très confluentes. Elle peut présenter une abondance de petits points de teinte plus rouge, lui donnant un aspect chagriné.

L'ecchymose de la main remonte sur la face postéro-externe de l'avant-bras, jusqu'en son milieu, à 8 ou 10 centimètres au-dessus de l'apophyse styloïde du radius. Ces ecchymoses sont quasi-constantes. Il y a un rapport étroit entre elles et les frottements résultant de la démangeaison.

Qu'elles siégent aux mains ou à la face, le mode de production est toujours le même. Le malade se gratte. Presque aussitôt la peau prend une coloration rouge, qui de jour en jour devient plus sombre, marron, puis violacée ensuite. Les ecchymoses qui siégent à la nuque résultent non de frottements, mais de la pression de l'oreiller, lequel, chez les Chinois, est un simple petit billot de bois. Selon que le malade dort sur le dos ou sur les côtés droit ou gauche, l'ecchymose occupe soit toute la région de la nuque, soit une portion externe seulement.

Parfois, dès les premiers jours de la maladie, on voit dans la région ecchymotique, l'épiderme soulevé par de la sérosité, tantôt citrine, tantôt jaunâtre, former de petites cloches dont le volume varie de celui d'un grain de millet à celui d'une noisette et qui arrivent par leur confluence à constituer des cloches de la largeur d'une pièce de 5 francs. Il ne faut pas confondre le soulèvement épidermique précoce avec un autre que nous verrons se produire, beaucoup plus tardivement, au niveau de ces mêmes points ecchymotiques.

Les mains sont le siége de douleurs parfois très vives, douleurs lancinantes, exaspérées par le moindre mouvement, la moindre pression, la chaleur, les rayons solaires et surtout la position déclive.

La douleur peut n'être qu'une sorte d'engourdissement sourd et continu. Mais le maximum de la douleur nous a toujours semblé exister au niveau des points ecchymotiques. Ce sont souvent des phénomènes de brûlure, que le malade essaye de calmer, soit en soufflant dessus, soit par l'application de feuilles de plantes. À mesure que l'ecchymose devient plus

noire, la sensibilité augmente à la pression, à la chaleur; le fait s'explique par la production d'un début de dermatite superficielle.

Les mouvements de la main et surtout des doigts sont très diminués et supprimés parfois, et ceci pour deux raisons: impotence du fait de l'œdème, immobilisation pour prévenir la douleur.

La sensibilité à la douleur à la face palmaire, à la face dorsale de la main, n'est pas abolie. Elle est simplement obtuse. Elle est très notablement diminuée aux extrémités des doigts et fréquemment on trouve l'anesthésie parfaite à la dernière phalange du pouce et de l'index: une aiguille peut, sans provoquer de douleur, traverser la pulpe du doigt, jusqu'à l'os.

La sensibilité tactile est également très atténuée à l'extrémité des doigts, la sensibilité à la chaleur est exagérée; un tube d'eau chaude promené sur la main fait pousser des cris à la malade. Cette thermoesthésie spéciale mérite quelques détails.

C'est en effet un des caractères intéressants de cette intoxication que la sensibilité exquise des régions malades à la chaleur ou à lumière. Nous avons déjà décrit l'aspect des malades arrivant à l'hôpital, la tête et les mains enveloppées pour se mettre à l'abri des rayons solaires. La lumière leur est insupportable au même titre que la chaleur. Sur deux ou trois de nos malades nous avons noté ce fait singulier: Les malades, étant dans la salle, pouvaient, par l'exaspération de leurs douleurs, nous indiquer l'approche de midi, c'est-à-dire du moment le plus chaud de la journée. De même, quand la nuit était un peu plus chaude que d'habitude, ou que l'encombrement de la salle échauffait davantage l'air, les malades nous disaient, le matin, qu'elles avaient beaucoup plus souffert pendant la dernière nuit que durant les précédentes et que la douleur les avait empêchées de dormir.*

Cette thermoesthésie, qui débute en même temps que les ecchymoses, s'exagère pendant la période de l'ulcération et peut, parfois, persister un certain temps après la cicatrisation.

L'œdème se localise aux mains, aux avant-bras et à la figure. Nous avons entendu prétendre par des Chinois, que dans quelques cas l'œdème pouvait se généraliser. Ce fait n'a jamais été observé ni par les religieuses, ni par nous-même.

La période d'état a une durée très variable qui est fonction de l'infiltration même. Dans les cas légers, après deux ou trois jours, l'œdème de la face a presque totalement disparu et à peine note-t-on, le matin, un peu de gonflement des paupières ou de la région sous-maxillaire correspondant au côté sur lequel le sujet s'est reposé. Dans les cas sérieux, il faut au moins une semaine pour faire disparaître l'œdème.

Il en est de même pour la main et l'avant-bras. L'œdème des doigts s'efface assez vite. Mais celui du dos de la main a toujours une durée plus longue que celui de la face, et demande au moins une dizaine de jours, dans les cas graves, pour arriver à une résolution complète.

À mesure que l'œdème des mains disparaît, ces organes récupèrent leur motilité et leur sensibilité. Cependant le pouce et l'index sont les derniers à recouvrer intégralement leur fonction. À ce moment la teinte cyanosée des doigts a déjà disparu depuis un certain temps.

* Ces phénomènes de sensibilité exagérée à la chaleur rappellent ceux que C. N. Lange avait décrits dans les épidémies d'ergotisme de Lucerne, Zürich et Berne en 1717.

Durant toute cette période, l'état général du sujet reste bon; la langue est belle, une fois ou deux seulement nous l'avons trouvée blanche; l'appétit est conservé. Mais au début, surtout quand le gonflement de la face est intense, les malades ont une certaine gêne pour mastiquer, gêne non douloureuse, mais purement mécanique par augmentation du volume des lèvres et des joues.

La vue, l'ouïe, l'intelligence ne présentent aucun trouble.

Nous n'avons jamais noté d'épistaxis, fait singulier, étant donnée la facilité de production de larges ecchymoses permettant de conclure à une altération profonde de la crase sanguine. Les malades n'ont point de fièvre, ou, dans tous les cas, celle que nous avons pu constater, n'avait d'autre cause que la suppuration, plus ou moins considérable, des ulcérations des mains et de la face.

L'examen le plus minutieux de l'urine ne nous a jamais révélé la présence de l'albumine.

Les fonctions de la vessie ont toujours été normales.

Nous ne savons rien de l'état du sens génésique.*

Le seul phénomène intéressant à signaler est la *lenteur du pouls*, qui chez une femme était à 52 et chez un enfant à 59 battements par minute. La *terminaison* se fait, soit par résolution de l'infiltration et desquamation épidermique, soit par ulcération, puis cicatrisation plus ou moins lente à se produire.

Dans les cas légers, chez les malades peu débilités, traités dès le début, la résolution simple s'est produite. L'infiltration disparaît peu à peu; puis au niveau de tous les points ecchymotiques, l'épiderme desquame en larges placards, rouge, marron, de la couleur même de l'ecchymose. Au-dessous, l'épiderme régénéré recouvre une région présentant une teinte rosée. Mais ces cas sont l'exception et l'ulcération est généralement la terminaison naturelle.

L'ulcération peut être un phénomène précoce, et commencer à se produire avant même que l'infiltration œdémateuse ait totalement disparu. Mais ces cas ne sont pas très fréquents. Ils se voient chez les malades qui, dès le début, présentent des cloches contenant une sérosité plus ou moins louche et dont nous avons parlé plus haut. Les cloches, de dimensions variables, généralement petites, se fusionnent pour en former de grandes atteignant le diamètre d'une pièce de 5 francs. Le liquide contenu devient de plus en plus trouble, puis à un moment, l'épiderme se crève, donnant issue à de la sérosité souvent puriforme. Après deux ou trois jours, cet épiderme tombe ou est enlevé et laisse à nu le derme enflammé et superficiellement ulcéré. Les petites cloches crevées aux mains, à la figure, laissent transsuder une sérosité qui se coagule et forme des croûtes analogues à celles de l'impétigo ou de l'eczéma impétigineux.

Les ulcérations produites par ce processus guérissent assez vite. Elles sont très superficielles, et la guérison s'obtient en sept à neuf jours.

Il n'en est pas de même de celles qui surviennent plus tardivement et qui se produisent sous les placards ecchymotiques. Elles sont beaucoup *plus importantes* et par leur étendue et par la difficulté avec laquelle la cicatrisation se fait.

* Comme nous nous servions des religieuses pour interpréter nos questions, il nous était difficile de leur faire faire une enquête sur l'état du sens génésique de nos malades.

FIG. 2.—Phase de macération de l'épiderme au niveau des ecchymoses de la région temporo-malaire.

FIG. 3.—Phases de macération épidermique (main droite) et d'ulcération (main gauche).

Depuis un certain temps déjà, l'œdème a disparu quand ces ulcérations commencent à se montrer; voici comment les choses se passent en général: Au niveau du bord de l'ecchymose se produit une traînée rougeâtre, quasi-érysipélateuse, de un demi à 1 centimètre de largeur, qui dure quelques jours, et qui peu à peu va s'atténuant. Presque en même temps, une transsudation séreuse, plus ou moins abondante, se produit, qui graduellement soulève, par places, l'épiderme, lequel, ainsi que nous l'avons déjà dit, a une teinte rouge marron.

Ce dernier, sous l'influence de la macération dans la sérosité, ne tarde pas à se plisser et à prendre une teinte blafarde. Ce ramollissement de l'épiderme se propage du centre primitif de l'ecchymose vers les bords. Quand on enlève cet épiderme, on trouve au-dessous une dermatite ulcéreuse superficielle, qui peut parfois être très étendue: occuper la moitié du front, un côté de la figure, la plus grande partie de la nuque, toute la région postéro-externe de la main et une partie de l'avant-bras (fig. 2 et 3).

L'ulcération semble formée par la confluence de petits foyers ulcératifs, dont les dimensions varient d'un grain de millet à une petite lentille. Leur profondeur est généralement peu considérable, mais peut atteindre 1 millimètre et plus. Quand les ulcérations ont une certaine profondeur, leur fond est garni d'un ichor jaunâtre, facilement coagulable. Elles saignent très volontiers.

Ces ulcérations sont souvent douloureuses spontanément, au point d'empêcher le malade de dormir. D'autres fois, la douleur n'est réveillée que par la pression. Chez une de nos patientes, la chaleur était très péniblement supportée et des exacerbations douloureuses se produisaient aux approches de midi. La malade devait soigneusement protéger les plaies des mains contre les rayons solaires: les pansements humides lui procuraient un grand soulagement.

Il n'est pas rare de voir les ulcérations de la main se compliquer d'adénites du coude et même de l'aisselle.

Durant cette période d'ulcérations, l'état général n'est pas très brillant, la langue est saburrale, l'appétit diminué, la constipation fréquente. On note souvent de la fièvre: 38°, 38°.5 et même 39°.

Ces ulcérations ont peu de tendance à cicatriser rapidement. Une ulcération peu étendue du diamètre d'une pièce de 5 francs, peut guérir en 8 à 12 jours. Mais dès que le diamètre est plus considérable il faut 25, 30 jours et même un mois et demi pour arriver à la guérison complète.

Quand les ulcérations ont été assez profondes, la cicatrisation laisse parfois après elle un *tissu chéloïdiforme*. D'ailleurs, toutes les plaies chinoises ont une remarquable tendance à présenter des cicatrices de ce caractère (fig. 4).

Cette intoxication ne nous a pas paru laisser des *complications* comme traces de son passage. La seule que nous ayons notée est une gangrène sèche des deux derniers doigts de la main gauche. La dernière phalange semblait uniquement intéressée. La malade nous dit que, quelques temps auparavant, elle avait présenté tous les phénomènes décrits ci-dessus, et qu'après la disparition de l'œdème des mains, les phalanges avaient commencé à prendre cette teinte noirâtre et à se momifier.

Le *traitement* que nous avons suivi chez les malades, soignés au début de leur intoxication, a consisté en purgatifs salins, les deux premiers jours. Nous augmentions la diurèse le plus

possible. Des toniques, sous forme de quinine et d'arsenic, étaient administrés; nous leur avons adjoint parfois des antiseptiques diffusibles, comme le benzoate de soude, le benzo-naphtol ou le salol. Le pansement local, avant les ulcérations, consistait soit dans de grands pansements humides et froids, soit dans des applications d'huile de jusquiame laudanisée et chloroformée.

Beaucoup de malades sont venus alors qu'ils étaient souffrants depuis quelque temps déjà et quelques-uns d'entre eux avaient même de larges ulcérations. Les toniques formaient la base du traitement. Comme pansement local, nous avons d'abord employé un mélange pulvérulent, à parties égales, de talc, quinquina, bismuth. Mais nous avons, tout de suite, dû l'abandonner. Cette poudre formait, avec l'exsudat, des croûtes très adhérentes, douloureuses à arracher et provoquant de petites hémorrhagies au moment où on les enlevait. Le pansement humide nous parut toujours préférable.

Telle est l'affection pour laquelle nous proposons le nom d'*atriplicisme*, dont le sens assez général ne préjuge rien de la cause intime de cette intoxication par l'arroche. Comment agit le poison? Nous ne pouvons que rester dans le domaine de l'hypothèse. Mais il nous est permis d'inférer, d'après la durée de la maladie, qui ne se complique ni de troubles trophiques, ni de troubles moteurs, ni de troubles sensitifs, persistant après guérison des accidents primitifs, que les lésions de la moelle (bulbaire ou cervicale) ou les lésions périphériques doivent être extrêmement superficielles et transitoires.

Il est deux affections, l'*asphyxie locale des extrémités* (maladie de Maurice Raynaud) et l'*érythromélalgie* (maladie de Weir-Mitchell), qui présentent avec l'atriplicisme un certain nombre de points communs. Les analogies existent surtout avec la *maladie de Raynaud.*

L'asphyxie locale et notre intoxication paraissent, en effet, assez spéciales au sexe féminin; elles affectent symétriquement les mains. Dans l'une et l'autre, les doigts, le nez, les pommettes peuvent être plus ou moins cyanosés. Les malades éprouvent des fourmillements, des engourdissements pénibles, des douleurs lancinantes dans les mains. Des troubles de la sensibilité et de la calorification, des phlyctènes, se montrent dans les deux affections. Mais si nous procédons à une analyse un peu détaillée des symptômes, nous nous apercevons aisément que les différences entre ces deux maladies sont considérables.

L'atriplicisme touche, en général, les deux mains, mais n'intéresse jamais les pieds.

L'âge n'a aucune importance étiologique; la maladie de Raynaud est, au contraire, une maladie juvénile. La teinte cyanique, qui est un des symptômes cardinaux de l'asphyxie locale des extrémités, est ici un phénomène contingent; elle peut ne pas se produire toujours, n'intéresse qu'un ou deux doigts, surtout la région unguéale. Enfin, quand la cyanose s'est produite, elle s'efface graduellement; elle ne paraît et disparaît point par intermittences, comme dans la maladie de Raynaud.

Les douleurs ont dans leur intensité une marche quasi-progressive en rapport avec l'infiltration œdémateuse elle-même, laquelle n'existe pas dans l'asphyxie locale.

Les troubles de la sensibilité n'atteignent jamais le degré élevé auquel ils parviennent dans la maladie de Raynaud. L'anesthésie ne se montre guère complète qu'à la région pulpaire des deux ou trois premiers doigts, alors qu'elle peut être totale sur une main atteinte d'asphyxie.

Fig. 4.—Aspect des mains après guérison des ulcérations et production de tissu chéloïdien. Au front la cicatrisation commence.

Il en est de même des troubles de la calorification. La température peut baisser de 1 à 2 degrés, mais jamais on ne la voit tomber à 18° et même à 15° comme le fait s'observe dans la maladie de Raynaud. Enfin, différence très importante, la chaleur provoque ou exagère les douleurs des mains chez les malades intoxiqués par l'atriplex; c'est le froid, au contraire, qui produit ces mêmes effets sur les extrémités asphyxiées.

L'évolution des accidents par empoisonnement est très rapide. L'infiltration et la douleur ont atteint leur apogée en trois à cinq jours en moyenne. La marche est plus lente, intermittente, dans la maladie de Raynaud qui procède par accès.

Les phlyctènes peuvent se produire d'une façon précoce ou tardive. Dans le premier cas, elles ont assez d'analogie avec celles de l'asphyxie locale, mais leur siége est tout à fait différent. Localisées aux phalangettes de la main ou des doigts, dans un cas, elles occupent à peu près constamment la région dorsale du poignet, dans l'autre.

Enfin les larges ecchymoses, l'œdème, l'impotence fonctionnelle, sont bien spéciales à l'intoxication par l'atriplex.

Dans l'*érythromélalgie*, la main est parfois augmentée de volume, plutôt congestionnée qu'œdémateuse. Le gonflement ne franchit point le poignet, alors que chez nos intoxiqués il gagne l'avant-bras, sur la face externe duquel il remonte obliquement.

Dans la maladie de Weir-Mitchell, comme dans l'atriplicisme, on note des fourmillements, des douleurs lancinantes dans les mains, douleurs exagérées par la chaleur ou la position déclive, calmées par la situation horizontale ou le froid. Mais la teinte phlegmoneuse des mains érythromélalgiques, les battements artériels, l'absence de phlyctènes, de cyanose des extrémités, de troubles de la sensibilité, les accès douloureux intermittents, ne peuvent laisser longtemps hésiter notre diagnostic.

Cette maladie, comme la *pellagre*, se localise aux parties découvertes et exposées à l'air. Comme cette dernière, elle présente des troubles de la sensibilité des modifications dans la couleur de la peau, de la desquamation. Mais on ne peut, un seul instant, s'arrêter à l'idée de *pellagre;* maladie chronique, compliquée de troubles digestifs et nerveux qui, ici, font défaut.

Dans son rapport sur "l'Atriplicisme," lu à l'Académie de Médecine le 5 janvier 1897, mon savant chef, M. le Professeur LAVERAN, émettait l'hypothèse que les accidents observés chez ces malades étaient des accidents purement locaux, déterminés par l'action sur la peau du venin des parasites de l'arroche, dont nous avons déjà parlé:—

"J'ai été frappé," dit-il, "en lisant le travail de M. MATIGNON, de voir que les parties découvertes étaient seules atteintes, que la main droite était plus souvent prise que la gauche et que l'éruption se limitait, parfois, au pouce et à l'index de la main droite, c'est-à-dire, aux parties les plus exposées, pendant la récolte de l'arroche.

"On comprend que les doigts souillés par une substance irritante souillent facilement la face."

Cette hypothèse nous parut tout à fait vraisemblable. D'abord, nous ne notons les accidents que chez les femmes, c'est-à-dire chez les personnes qui ramassent et préparent l'arroche. Ensuite, nous constatons que, non seulement le pouce et l'index sont plus atteints que les autres doigts, mais encore nous voyons l'infiltration œdémateuse être accentuée, surtout, au dos de la main et occuper, contrairement aux lois de la pesanteur, la portion postéro-externe

de l'avant-bras, c'est-à-dire celle contre laquelle, pendant la cueillette, viennent de préférence frapper les pousses d'atriplex.

Au mois de juin 1897, nous eûmes l'occasion de donner nos soins à une malade. Celle-ci nous porta des pousses d'arroche, cueillies à côté de celles qu'elle avait ingérées. Avec ces sommités de la plante, nous frottâmes les mains et la figure de 15 de nos malades. Nous répétâmes l'expérience sur une religieuse et sur nous-mêmes. Dans tous les cas, les résultats ont été négatifs.

À la même époque, quatre de nos domestiques furent employés, bras nus, à arracher des pieds d'atriplex qui avaient envahi un coin du parc de la Légation. Aucun d'eux ne présenta des phénomènes identiques à ceux que nous avons relatés.

Ainsi, sur 21 personnes sur lesquelles ont été expérimentés les produits supposés venimeux, nous n'avons vu se produire aucun accident.

Force nous est, donc, malgré la vraisemblance de l'hypothèse émise par M. le Professeur LAVERAN, de supposer que les phénomènes pathologiques ne résultent pas de l'action irritante sur la peau des produits venimeux des feuilles de l'atriplex.

OBSERVATION I.

Femme de 39 ans. Bonne santé habituelle. Vient à l'hôpital le 20 mai 1895, se plaignant d'un gonflement douloureux des mains et de la figure. Un purgatif lui est donné.

Je la vois le 21 mai. La peau du dos des mains est tendue, luisante, froide, non douloureuse. La peau de la paume est également distendue. Les doigts sont écartés, légèrement fléchis comme dans un phlegmon. L'œdème remonte obliquement sur les deux avant-bras, en avant et en dehors. L'œdème est dur, il faut peser un certain temps pour y laisser l'empreinte du doigt.

Les ongles sont généralement cyanosés.

Avant que le gonflement ne se produisît, cette femme a éprouvé une sorte d'engourdissement dans les mains, avec douleurs lancinantes, comme dans le phlegmon, et presque aussitôt le gonflement est survenu.

La main œdématiée n'est pour le moment douloureuse, ni spontanément, ni à la pression. La malade n'accuse que des démangeaisons qui l'obligent à se gratter. Un frottement, même léger, détermine la production d'ecchymoses, marquées surtout aux régions dorsales, du pouce et de l'index.

Dans les doigts, la malade accuse des douleurs spontanées et des fourmillements aux extrémités. Les doigts sont distendus, en boudins. Les mouvements sont gênés. Le quatrième et le cinquième seuls peuvent être fléchis. Diminution de la sensibilité à la pulpe des troisième et deuxième doigts ainsi que du pouce. Dans ces deux derniers, une aiguille est enfoncée sans douleur jusqu'à l'os.

La figure est bouffie; les paupières à peine entr'ouvertes: aspect d'un brightique. Les pommettes sont gonflées; les lèvres infiltrées et retournées en rebord de pot de chambre. La figure réalise le type du magot. Le bout du nez est violacé, froid, ecchymotique par places à cause des frictions consécutives aux démangeaisons.

Anesthésie légère. Pas de troubles de la vue; pas de bourdonnements d'oreille, pas de fièvre; pas d'albumine. Langue belle. Pas de gonflement des pieds.

22 mai.—Œdème des mains moins considérable. Ecchymoses plus accentuées qu'hier. Douleurs assez vives à la moindre pression sur les doigts. Les douleurs spontanées sont atténuées. La peau se réchauffe. Les ongles sont moins cyanosés. La malade plie mieux les doigts.

Hier elle ne pouvait en fléchir que deux; trois aujourd'hui. L'index et le pouce sont encore comme morts.

La figure est moins œdématiée, surtout à gauche. La paupière droite tombe encore, fermant l'œil presque en totalité. Ecchymoses au nez et au menton. Les joues pendent sous le maxillaire comme des bajoues.

Photophobie et douleurs exagérées par le soleil. (Est-ce bien de la photophobie, et l'attitude n'est-elle pas simplement le résultat de la douleur?) La malade se présente à l'hôpital la tête et les mains enveloppées à cause de la douleur provoquée par le soleil.

Langue large et blanche. Pas de fièvre. Pouls lent: 52. La malade ne se sent aucun mal. Appétit.

24 mai.—Mieux. L'œdème des mains a presque totalement disparu; il n'en reste trace qu'à la face postérieure. Légères douleurs spontanées persistant dans le pouce.

L'œdème de l'avant-bras a totalement disparu.

Tous les doigts, sauf le pouce, peuvent se fléchir facilement. Ongle du pouce encore cyanosé.

Les ecchymoses des régions dorsales du pouce et de l'index et celles du nez ont une teinte plus violacée.

À la figure, l'œdème a totalement disparu.

À partir de ce moment, la malade se sentant beaucoup mieux, n'est plus revenue.

Traitement.—Purgatif salin le premier jour. Puis quinine, fer, arsenic.

Observation II.

Une femme de 35 ans, jouissant ordinairement d'une bonne santé habituelle, mange le 19 mai des pousses de *lao-li-ts'ai*. Le 20 mai, au soir, elle ressent, dans la main droite, un engourdissement, d'abord leger, qui va augmentant et devient rapidement douloureux. Une demi-heure après, la face commence à gonfler. Les mains se mettent elles aussi à gonfler, mais l'infiltration œdémateuse n'est pas douloureuse.

Quand je vois la malade, le 21 mai, au matin, elle se plaint seulement de fourmillements douloureux au pouce droit, dont l'ongle est légèrement cyanosé.

Tous les doigts de la main droite sont distendus, légèrement fléchis, froids, cyanosés et douloureux à la pression.

Le gonflement remonte, obliquement, jusqu'au milieu de l'avant-bras.

Le gonflement commence à se produire à la main gauche. L'infiltration distend les tissus au dos du premier métacarpien et du pouce. La pression sur l'ongle est douloureuse. Les autres doigts sont encore indemnes de l'infiltration œdémateuse. Cependant leur extrémité est, déjà, un peu froide.

L'avant-bras gauche est un peu œdématié dans son tiers inférieur. La figure est peu œdématisé et seul le côté gauche est atteint. Les paupières épaisses laissent entre elles une légère fente palpébrale. Elles se meuvent assez péniblement.

L'état général est bon. La langue belle. Pas d'albumine dans l'urine.

La malade n'est pas revenue à l'hôpital.

Observation III.

Femme de 51 ans, mendiante, arrive à l'hôpital le 24 mai, au matin, la tête recouverte d'un linge et les mains enveloppées dans un vieux torchon. Elle est malade depuis trois jours.

L'infiltration œdémateuse des mains s'est produite pendant la nuit du 21 au 22 mai.

La malade avait mangé la plante 15 à 20 heures auparavant.

Dans l'après-midi, elle avait lavé du linge et après ce travail elle ressentit un engourdissement des mains.

Le gonflement se fit pendant la nuit et n'a pas l'air d'avoir gêné le sommeil. Elle eut, au réveil, de très fortes démangeaisons, surtout marquées au dos des mains. Elle se gratta très violemment et quand je la vis, le 24 mai, tous les points frictionnés portaient de larges ecchymoses et, par places, de petites cloches, dont quelques-unes, ayant le diamètre d'une pièce de 50 centimes, étaient garnies de sérosité.

État actuel le 24 mai.—À la main gauche, la région dorsale est gonflée, distendue. L'œdème est dur. Les doigts sont en saucisses, écartés et légèrement fléchis. Une large ecchymose occupe toute la face dorsale de la main et remonte à 8 ou 10 centimètres au-dessus de la pointe du radius. Du côté droit, l'œdème est assez considérable. L'épiderme est soulevé par une série de cloches assez volumineuses, dont plusieurs ont le volume d'une noisette.

Aux avant-bras, l'œdème remonte obliquement, en dehors, jusqu'à l'épicondyle.

Les premiers jours, tous les doigts étaient douloureux, douleurs lancinantes et fourmillements. Maintenant, le pouce seul, tant à droite qu'à gauche, est douloureux spontanément et à la pression. Son ongle est cyanosé. Il y a de l'anesthésie à la pulpe.

La figure est gonflée, surtout à droite. La paupière droite recouvre entièrement l'œil et ne peut se relever : ptosis œdémateux.

Pas de troubles de la vue, ni des l'ouïe.

Mais la lumière solaire et la chaleur provoquent des douleurs très vives et c'est, pour cette raison, qu'elle abrite les parties malades sous du linge humide.

La langue est légèrement saburrale. L'appétit est bon.

Pas de traces d'œdème, ni aux pieds, ni aux jambes.

Traitement.—Un purgatif salin. Puis quinquina et fer.

Cette malade n'est venue qu'une seule fois à l'hôpital de Nan T'ang.

Observation IV.

Enfant de 7 ans. Mange des pousses de *lao-li-ts'ai* le 11 juin. Le 12 juin, le gonflement commence à se monter, dans l'après-midi et débute par la figure. L'enfant n'éprouve ni douleurs, ni démangeaisons, ni céphalalgie.

Il arrive à l'hôpital le 13, au matin, la tête enveloppée dans un morceau de linge. La figure est déformée par une infiltration considérable. Les yeux sont fermés; les paupières œdématiées ne peuvent s'écarter; le malade n'y voit pas et doit être conduit. Les lèvres infiltrées, énormes, sont retournées en rebord de pot de chambre, et la bouche reste béante, vraie bouche de carpe, d'où s'écoule, sans cesse, la salive.

Des ecchymoses se voient au front, à l'orbite, au nez, à la lèvre supérieure.

L'œdème s'est étendu au-dessous du maxillaire inférieur. Le malade a comme des bajoues.

La lumière du soleil provoque de la douleur: c'est pour cette raison qu'il s'enveloppe la figure, pour sortir.

La face est le siége d'une anesthésie légère.

Le bout du nez est un peu anesthésié et froid.

L'œdème de la face est dur, élastique et garde, peu longtemps, l'empreinte du doigt.

Les mains sont indemnes.

L'urine ne renferme pas d'albumine.

L'état général est bien. Pas de fièvre. Appétit.

Traitement.—Un purgatif salin. Puis des toniques.

L'enfant n'est pas revenu à l'hôpital.

Observation V.

Mendiante de 36 ans, venant à l'hôpital le 21 juin. Cette femme nous dit avoir mangé du *lao-li-ts'ai*, il y a 25 jours. 20 heures, environ, après, elle éprouvait des fourmillements dans les doigts, des sensations de froid. Puis survenait l'œdème des mains, avec l'impossibilité de remuer les doigts. Les extrémités de ces derniers étaient le siége de douleurs lancinantes, particulièrement pénibles.

Presque en même temps commençait le gonflement de la figure qui débutait par le front. La malade accuse des bourdonnements d'oreille, un certain trouble de la vision. Il y avait un peu de photophobie. La position déclive, les rayons lumineux, l'eau chaude exagéraient les douleurs des mains.

État actuel 25 jours plus tard.—Le dos des deux mains est dépourvu d'épiderme jusqu'à l'extrémité des doigts. Ceux-ci portent, surtout de chaque côté de l'ongle, des traces d'ecchymose.

Les doigts sont facilement mus. Cependant les deux index sont un peu moins libres dans leurs mouvements.

À la figure, on constate, au front, au nez, à la pommette gauche, des larges croûtes jaunes, noirâtres, desséchées par places, laissant suinter ailleurs de la sérosité citrine. Ces croûtes recouvrent des ulcérations qui intéressent la partie superficielle du derme, moins profondément toutefois, que ne le font les ulcérations des mains.

L'œdème des lèvres n'a pas complétement disparu. Les lèvres sont encore volumineuses et écartées. Elles sont le siége de douleurs provoquées par les mouvements. Ces douleurs toutefois sont moins vives que la semaine précédente, car à ce moment elles rendaient la mastication très pénible et difficile.

Dans tous les points où siégent les ulcérations, cette femme nous dit que, dans les jours qui suivirent le gonflement, il se produisît, du fait du grattage provoqué par les démangeaisons, de nombreuses cloches de dimensions variables. Les petites étaient très confluentes.

Elles renfermaient un liquide clair, qui devint bientôt jaunâtre et les ulcérations commencèrent à se produire.

La malade avait un peu de fièvre tous les soirs. La langue était blanche. Peu d'appétit.

Le traitement fut: toniques et poudres absorbantes sur les plaies.

N'est pas revenue.

Observation VI.

Femme de 55 ans, mendiante. Elle a mangé du *lao-li-ts'ai* le 21 juin, au soir, et le matin, au réveil, elle constate que sa figure et ses mains sont œdématiées. Le dos de ces dernières est le siége de douleurs lancinantes. Le bout des doigts n'est pas douloureux. Les mains, surtout la droite, furent le siége d'une vaste cloche, siégeant sur le dos et le bord externe. Celle du côté droit, jugée d'après l'étendue de l'ulcération, eut 14 centimètres de long sur 8½ centimètres de large. La sérosité était claire. La nuque portait, également, une cloche assez considérable. Une troisième, peu étendue, occupait la pommette gauche.

Je vis la malade 15 jours après le début des accidents. Les mains portent des ulcérations, intéressant la couche superficielle du derme, et dont les dimensions nous permettent de juger, de ce que furent les cloches de sérosité au début. L'ulcération de la nuque est moins profonde que celles des mains. L'ulcération de la pommette a été très superficielle. Elle est guérie à l'heure présente.

La malade n'a, ni n'a eu, de fièvre.

Appétit bon; langue belle.

La sensibilité est normale. La lumière et la chaleur ne provoquent, maintenant, aucune douleur.

La figure a été, au début, très œdématiée. Les paupières ne pouvaient s'ouvrir.

Le gonflement de la figure a duré, environ, quatre jours.

Observation VII.

Un enfant de 7 ans est conduit, le 23 juin, à l'hôpital de Nan T'ang. Il y a quatre jours, au repas du soir, il a mangé du *lao-li-ts'ai*. Dans la journée de lendemain, il a éprouvé des fourmillements douloureux dans les doigts et au dos de la main, à la figure et au bout du nez. Ces fourmillements et ces démangeaisons ont obligé l'enfant à se gratter et à se frictionner très énergiquement.

Quand je vois le malade, l'infiltration des tissus remonte à 24 heures. La figure, bouffie au maximum, réalise, tout à fait, le type classique du magot chinois dans l'érysipèle de la face. Les paupières sont fermées, et l'infiltration est telle qu'elles ne peuvent être ouvertes, ni spontanément, ni avec le secours des mains. Les lèvres sont énormes, projetées en avant. La bouche béante et arrondie ne peut se fermer: aspect d'une bouche de carpe, par laquelle s'écoule constamment la salive.

Le gonflement des mains est considérable. L'œdème remonte, obliquement, en dehors, sur les deux avant-bras. Les mains sont distendues, la peau est rouge violacée, froide, ecchymotique, par places, et, çà et là, couverte de larges cloches.

Les doigts sont en saucisses, comme dans les engelures, à demi-fléchis, cyanosés, douloureux à la pression. Le pouce et l'index des deux mains sont le siége de fourmillements et d'anesthésie: on peut y enfoncer une aiguille, jusqu'à l'os, sans provoquer de douleur.

Le nez est cyanosé et froid.

Au front, à la pommette droite, au menton, l'épiderme est soulevé par de la sérosité jaune clair, formant de petites cloches.

Le pouls est très lent.

Langue épaisse et blanche. Appétit.

Pas d'œdème des pieds. Pas d'albumine.

Le malade n'a point de fièvre.

Comme tous les malades, celui-ci prétend que l'action des rayons caloriques ou lumineux est douloureuse et il arrive la tête et les mains soigneusement protégées.

Je n'ai pas revu le petit malade.

Observation VIII.

Une mendiante de 37 ans se présente à l'hôpital le 9 juillet. Elle a mangé du *lao-li-ts'ai*, il y a six jours. Le lendemain, la figure avait commencé à s'œdématier. L'infiltration avait été très considérable et rapide. La malade ne pouvait ouvrir les yeux.

Elle avait, en même temps, des bourdonnements d'oreille. Le gonflement des mains s'était produit, en même temps, que celui de la face, précédé d'engourdissement, de démangeaisons, de fourmillements douloureux. La position déclive augmente la douleur, qui devient lancinante, pongitive, et qui se calme quand le membre est placé horizontalement. Elle n'éprouve guère, en temps ordinaire, qu'un engourdissement douloureux et, de temps à autre, des douleurs lancinantes.

Les mouvements des doigts sont difficiles et douloureux.

La malade aurait eu de la fièvre (?).

Il n'y a pas eu de gonflement des pieds.

État actuel le 9 juillet.—La malade arrive, la tête et les mains recouvertes par un morceau d'étoffe. Le gonflement de la figure a disparu. Il ne reste plus qu'un léger œdème palpébral. Sur le front, à la joue, à la tempe droite, au nez, à la lèvre supérieure, à l'oreille droite se voient de larges plaques ecchymotiques. Au bout du nez, on note une légère ulcération, très superficielle. Les ailes du nez sont recouvertes de croûtes jaunâtres, rappelant, un peu, celles de l'eczéma.

À la nuque se voit une large ecchymose noire violacée, ellipsoïde, de 12 centimètres sur 15. Le bord en est, nettement, délimité par un liséré rouge, inflammatoire, qui semble faire un léger relief. Cette région est douloureuse. Les démangeaisons y ont cessé, ou à peu près complétement.

La main gauche est gonflée comme dans un phlegmon; les doigts sont à demi-fléchis, engourdis et douloureux. Ils sont déformés, comme dans les engelures, en saucisses.

L'œdème de la main est moins dur que d'habitude.

Au niveau du poignet, une cloche s'est produite, vidé maintenant de sérosité. Il y a commencement d'ulcération et léger écoulement d'ichor et la peau, tout autour, a une teinte érysipélateuse. Au voisinage se voient quelques petites cloches.

Le dos de la main, jusqu'à la racine des doigts, présente une teinte noire violacée, par places marbrée de taches gris-terreux, rappelant l'aspect de la gangrène.

L'œdème remonte obliquement sur l'avant-bras.

La main droite est beaucoup moins gonflée. La malade peut remuer les doigts, dont le gonflement est à peine marqué. Une vaste ecchymose de teinte noire grisâtre se voit sur le dos de la main.

Pas de fièvre. Langue blanche. Peu d'appétit. Bouche mauvaise. Malaise général. Pouls: 120.

Traitement.—Un purgatif salin. Toniques.

11 juillet.—Les douleurs de la main sont assez fortes pour empêcher la malade de dormir.

Sur le dos de la main droite l'épiderme commence à être soulevé par place, par de la sérosité. L'épiderme est comme macéré et devient blanc.

À la main gauche, l'ulcération s'est très étendue et a la dimension de deux pièces de 5 francs. Le derme est intéressé sur une profondeur de 1 à 2 millimètres. Par places, de l'ichor coagulé forme des croûtes adhérentes de la largeur d'une pièce de 1 franc.

La pression sur les doigts est douloureuse.

Les ongles sont légèrement cyanosés à gauche, la sensibilité de la pulpe des doigts à la piqûre est très obtuse.

Les mouvements des doigts sont très limités et douloureux à gauche; plus libres et peu douloureux à droite.

La position déclive est très douloureuse.

Adénite trochlienne gauche, volumineuse et douloureuse. À la nuque, l'ecchymose prend une teinte gangréneuse, marbrée de taches d'un gris-terreux. Le bourrelet rouge qui la limitait a disparu à peu près totalement. Encore un peu de douleur, en ce point.

État général pas brillant. Un peu de fièvre. Appétit.

Pas d'albumine.

12.—Sur les plaies, du bismuth est appliqué; très douloureux, car il forme, avec la sérosité, des croûtes difficiles à arracher et qui font saigner.

La douleur des doigts se réveille, dès que la main est mise en position déclive.

13.—L'épiderme du dos de la main droite, mortifié, a été, peu à peu, soulevé par de la sérosité. Enlevé, aux ciseaux, il laisse voir le derme rouge, enflammé, avec de petites ulcérations punctiformes de la largeur d'une lentille. Il y a écoulement abondant de sérosité jaunâtre claire. Le tout est encore douloureux.

L'œdème de l'avant-bras gauche persiste toujours. Adénite épitrochlienne douloureuse.

À gauche, les doigts sont œdémateux et, jusqu'à la deuxième phalange, ont une teinte rouge érysipélateuse.

L'œdème est moins dur et se laisse facilement déprimer.

La douleur empêche, encore, la malade de bien reposer.

15.—Les croûtes du nez sont tombées. L'épiderme ecchymotique du front desquame en larges placards violacés. Au-dessous se voit une couche épidermique de nouvelle formation.

À la main droite, l'ulcération s'est étendue et en occupe tout le dos. Elle est très douloureuse. Saupoudrée avec iodoforme et magnésie 5 gr., morphine 0.05. La douleur est uniquement localisée aux parties ulcérées. Mais quand la malade laisse pendre la main, aussitôt se produisent les douleurs pongitives.

À la nuque, l'épiderme commence à être soulevé. Au niveau du liséré inflammatoire, l'épiderme a pris une teinte blanche, comme s'il était macéré. Au-dessous, il y a de la sérosité et toute l'ecchymose de la nuque se trouve entourée par un cercle blafard, formé d'une quantité de petites cloches. L'épiderme est même tombé dans certains endroits et laisse voir le derme ulcéré. De petites cloches se montrent également sur toute la surface de l'ecchymose et de petites ulcérations s'y sont déjà produites. Peu de douleur.

Pas de fièvre. Appétit.

17.—La macération et le soulevement de l'épiderme, à la nuque, ont marché très vite. L'épiderme est presque totalement desquamé.

20.—À la nuque, siége une large ulcération, de la dimension des deux mains. L'ulcération n'est pas très profonde, mais elle est devenue douloureuse.

Les mains ne sont plus douloureuse. La gauche est guérie. À droite, l'ulcération se cicatrise.

22.—Même état.

La malade a été perdue de vue, à ce moment.

Observation IX.

Mendiante, agée de 37 ans, ayant mangé du *lao-li-ts'ai*, il y a 15 jours. Le gonflement des mains, des avant-bras, de la figure et de la partie supérieure de la poitrine, avait débuté 20 heures après, environ, précédé de fourmillement, démangeaison et cuissons.

La douleur était continue, mais, de temps à autre, avait des exacerbations qui l'empêchaient de manger et de dormir.

Pas de bourdonnements d'oreille. Pas d'épistaxis.

Pendant deux ou trois jours, l'œdème de la face fut tellement considérable que les paupières ne pouvaient être ouvertes et que la malade ne pouvait se conduire elle-même. La chaleur et la lumière du soleil étaient péniblement supportées.

État actuel le 9 juillet.—L'infiltration de la figure est encore considérable. Le gonflement, toutefois, n'intéresse plus le front. Les pommettes sont œdémateuses. Les joues présentent, en bas, un bourrelet œdémateux qui tombe au-dessous du maxillaire inférieur. Sur le nez se voit une large ecchymose, parcheminée, de couleur marron rougeâtre: les démangeaisons, très vives, au début de la maladie avaient obligé la malade à se gratter énergiquement.

Aux mains, l'œdème a été très considérable; les doigts étaient très infiltrés et difficiles à mouvoir. À l'heure présente, ils sont, à peine, œdémateux et les mouvements en sont libres.

On voit, maintenant, sur les mains, à droite comme à gauche, de larges placards ecchymotiques remontant sur l'avant-bras et descendant jusqu'à la deuxième phalange des trois premiers doigts.

Dès le quatrième au cinquième jour, de petites cloches, contenant de la sérosité claire, puis jaune, ont commencé à soulever l'épiderme. Celui-ci a fini par se rompre et l'ulcération a débuté au niveau du poignet. Le derme est, maintenant, à nu sur la surface de deux pièces de 5 francs. À droite, l'ulcération est superficielle; à gauche, elle intéresse plus profondément le derme. Le dos de la main est douloureux à la pression. Il y a un peu d'œdème.

Traitement.—Toniques et pansement des ulcérations avec des poudres d'iodoforme et de magnésie.

12.—Les ulcérations des mains sont en bonne voie. L'épiderme de la pointe du nez, de la pommette desquame en larges lambeaux noir violacés.

La langue est belle. La malade mange bien.

Pas d'albumine.

13.—Les ulcérations des mains sont en bonne voie. Au milieu du front des cloches se sont formées et l'épiderme commence à se macérer. La malade nous dit que la production de ces cloches est due à l'effet des rayons solaires auxquels elle s'est exposée, il y a deux jours. L'effet du soleil est encore très douloureux et elle n'avait pas eu la précaution de bien s'envelopper la tête.

Cette action douloureuse du soleil se produit, non seulement sur les parties ulcérées, mais encore dans les points où l'ulcération est guérie.

18.—Les ulcérations se sont étendues à tout le front, mais sont assez superficielles, sauf en deux ou trois points, où elles atteignent 2 à 3 millimètres de profondeur.

22.—Aux mains, les ulcérations sont guéries. Mais les cicatrices ont pris l'*aspect chéloïdien*, formant des saillies framboisées recouvertes d'épiderme ayant des reflets de nacre. Ces cicatrices ne sont point douloureuses, mais provoquent encore des démangeaisons.

Au front, les ulcérations sont en bonne voie. Partout où l'ulcération était superficielle, elle est réparée, maintenant. Dans les points où elle était plus profonde, il s'est produit de petits bourgeons charnus formant des îlots, saillant au-dessus de l'épiderme rosé des points où la réparation s'est faite. Il est même nécessaire de toucher quelques-uns de ces bourgeons au nitrate d'argent, à cause de leur exubérance.

La lumière sur la figure est encore douloureuse. Elle ne l'est plus sur les mains.

Observation X.

Femme de 57 ans, jouissant d'une bonne santé habituelle. Elle a mangé le 12 juillet de l'arroche et le lendemain le gonflement a commencé par la figure, puis de là, a gagné les mains, les avant-bras. Au début, il y eut peu ou pas de douleur. La malade ne souffrit que lorsque le gonflement eut atteint son développement complet. La figure était alors le siége de douleurs si vives que, pendant deux nuits, cette femme ne put dormir.

En même temps, elle avait de la céphalalgie, des bourdonnements d'oreille.

L'œdème de la figure fut considérable, les paupières furent à ce point infiltrées, que, pendant trois jours, la malade ne put les ouvrir.

Après quatre à cinq jours, le gonflement avait disparu.

Cette femme vient à l'hôpital le 22 juillet. Sa calvitie nous permet de voir, sur le sommet de la tête, une large ecchymose. Une autre se trouve à la nuque, ayant les dimensions de la main. Celle-ci est très douloureuse, spontanément et à la pression. Sur la joue et la tempe gauches, il y a également une vaste ecchymose. La teinte en est rouge marron. Aux ailes du nez se voient quelques croûtes jaunâtres, comme des pustules d'impétigo, en partie desséchées.

Au dos de la main gauche, on note une ecchymose de teinte noir-terreux, de forme triangulaire, s'arrêtant au bord externe du pouce, remontant à 10 centimètres au-dessus du poignet, sur le bord externe de l'avant-bras. Elle descend jusqu'à la deuxième phalange de l'index et s'arrêté au sommet de la première phalange du médius.

Au niveau du poignet, l'épiderme blanc, macéré, est lâche et plissé sur lui-même, ce qui nous fait prévoir sa chute et, partant, une ulcération plus ou moins étendue du derme, à brève échéance. À la limite de l'ecchymose, la peau présente un liséré rouge inflammatoire.

À droite, l'ecchymose offre les mêmes caractères, mais elle est plus considérable, elle remonte plus haut sur l'avant-bras et intéresse l'annulaire.

Toutes ces régions sont spontanément douloureuses, douleurs continues, pongitives, avec exacerbations. La position déclive ne peut être gardée par la main, à cause de l'intensité des douleurs lancinantes qu'elle provoque.

Le maximum de la douleur est à midi. La malade ne peut, alors, rester, ni couchée, ni assise. Elle n'a plus de position. La lumière et les rayons solaires sont péniblement supportés par la tête et les mains, que la malade recouvre soigneusement, pour venir de la salle au dispensaire.

Léger mouvement fébrile; peu d'appétit. Constipation.

Pas d'albumine.

Traitement.—Purgatif. Quinine. Arsenic.

25.—Cette femme souffre beaucoup et dort très mal, la nuit. À la main gauche, l'épiderme ecchymotique est soulevé par de la sérosité jaunâtre. Il a disparu, au niveau de l'articulation dorsale du poignet, sur une surface égale à la paume de la main. Dans cet endroit, le derme ne paraît pas très bien, recouvert qu'il est, par un exsudat pseudo-membraneux jaunâtre.

À droite, l'épiderme est soulevé, par places, par de la sérosité et comme macéré. L'ulcération est imminente.

Sur le front, des ulcérations, superficielles en général, intéressent le derme sur une assez large étendue. Par places, de petites ulcérations intéressent le derme sur une profondeur de 3 à 4 millimètres et la largeur d'une pièce de 50 centimes ou d'une pièce de 1 franc.

La joue et la région malaire ont, également, commencé à s'ulcérer.

La position déclive des mains exagère toujours la douleur. Les mouvements des doigts sont douloureux et la malade y éprouve constamment des sensations pénibles, identiques à des piqûres d'aiguilles.

L'état général est meilleur. La langue est belle. L'appétit bon, mais dès que les douleurs deviennent un peu violentes, la malade ne peut plus manger.

La tête est encore lourde. Quelques bourdonnements d'oreille.

Pas d'épistaxis. Pas d'albumine.

29.—L'épiderme est tombé, complétement, aux mains, à la figure, à la nuque.

La malade souffre beaucoup et ses douleurs sont en raison de l'élévation de la température.

Les ulcérations des mains sont recouvertes d'un enduit pultacé jaunâtre. Pas d'adénite axillaire.

Dort très mal à cause de la douleur. Celle-ci s'exagère vers midi, et s'accompagne de malaise, sécheresse de la gorge et d'un peu de fièvre : 38°.

L'appétit, cependant, est bon.

30.—Même état. Souffre un peu moins. Dort mieux. Se plaint du ventre.

2 août.—L'épiderme de la tête est également tombé, sur toute la région où siégeait, autrefois, l'ecchymose.

4.—À la main droite, l'enduit pultacé a été enlevé. On voit des bourgeons un peu blafards. À gauche, l'ulcération commence à se faire sur les bords de l'ulcération.

À la nuque, le derme a été très légèrement touché, car la réparation est déjà faite et il ne reste plus qu'une large plaque d'un blanc-rosé recouverte d'épiderme. Elle est encore un peu sensible à la pression.

Les douleurs ont à peu près complétement disparu. Cependant, à midi, la malade souffre encore notablement plus que pendant le reste de la journée.

6.—À la figure, sur les joues, à la région malaire, la réparation est faite. Un seul point, large comme une pièce de 5 francs, est encore recouvert de croûtes jaunâtres. Il reste, maintenant, sur le côté de la figure une large tache blanchâtre, qui tranche notablement sur la teinte brune olivâtre de la peau.

8.—La main droite, la joue, la pommette sont guéries, tout le sommet de la tête bourgeonne et de petites traînées d'épiderme de réparation y dessinent un réseau blanchâtre.

À gauche, la cicatrisation est faite, à moitié. Il n'y a plus que la partie centrale de l'ulcération qui reste à cicatriser. Les bourgeons y sont très vifs, formant des reliefs de 4 à 5 millimètres qu'il faut toucher au nitrate d'argent.

La malade souffre encore de la main gauche, douleurs sourdes à exacerbation.

Bon appétit. Pas de fièvre. Dort bien.

Perdue de vue à partir du 10 août.

Observation XI.

(Cette observation est la seule qui ait été prise en 1896.)

Femme de 61 ans, toujours bien portante, vient à l'hôpital le 28 mai 1896. Elle est malade depuis quatre jours. Elle a mangé, un soir, des pousses d'arroche, dans une sorte de macaroni à peine cuit. Huit personnes de sa famille en ont également mangé ; elle seule fut atteinte. Elle en avait remangé, le lendemain matin, avant d'aller laver du linge. Pendant ce travail, sa main droite se mit à gonfler et elle éprouva des fourmillements douloureux, surtout au pouce et à l'index.

Quelques heures après, la figure se prend à son tour. Le gonflement, surtout accentué à la région fronto-temporo-jugale droite, est précédée de douleurs lancinantes.

Elle vient à l'hôpital le 28 mai : la figure est gonflée, l'œdème des paupières est considérable ; elles ne peuvent s'ouvrir et la malade doit être guidée par la main.

Je ne la vois que le 29. La figure est moins gonflée, sauf à la joue et à la pommette droites. Une large ecchymose se voit au front, à la tempe, à la joue. Pas de douleur à la pression.

La main droite est œdémateuse dans sa portion dorsale. Les doigts ne sont point gonflés dans leur totalité: la première phalange seule est infiltrée. Le pouce et l'index sont beaucoup plus touchés que les autres doigts et les ongles sont violacés.

L'œdème est assez dur, élastique, ne garde pas longtemps l'empreinte du doigt.

Une large ecchymose noire bleue part du milieu de la face externe de l'avant-bras, va s'élargissant vers le poignet et recouvre le pouce et la moitié de la face dorsale de l'index.

Les troubles de la sensibilité consistent en douleurs spontanées lancinantes, qui, pendant les deux dernières nuits, ont empêché la malade de dormir. L'influence de la lumière est encore nulle.

La main est endormie; les mouvements gênés, surtout par l'infiltration; les mouvements ne sont pas douloureux.

La sensibilité à la piqûre, normale aux trois derniers doigts, est très atténuée au pouce et à l'index.

À la main gauche, l'œdème est insignifiant. On note une ecchymose rouge marron, très légère, formée de petits points séparés par des espaces de peau saine. La sensibilité est très peu diminuée au niveau du pouce et de l'index, dont les ongles ont la couleur normale.

À l'avant-bras droit, l'œdème, encore assez marqué à la région postéro-externe, remonte jusqu'au niveau du coude. À gauche, il ne remonte pas au-dessus du tiers inférieur de la région postéro-externe.

L'état général est bon. La langue un peu blanche. Les selles régulières. Appétit. Pas de fièvre. Pouls: 72.

30.—Arrive, ce matin, à la visite, la main droite enveloppée dans un linge pour la protéger contre les rayons du soleil qui maintenant provoquent des douleurs. Elle souffre de sa main, dès qu'elle est exposée à l'air ou en contact avec des objets chauds. La région ecchymotique est particulièrement sensible. Un tube contenant de l'eau chaude est beaucoup plus péniblement supporté, au niveau de l'ecchymose, que partout ailleurs. Il en est de même pour la pression.

La douleur spontanée est, maintenant, continue et exagérée par la position déclive.

À la main gauche, l'œdème et l'ecchymose sont à peine visibles. Au front, à la joue, à la tempe, l'ecchymose, disparue, par places, laisse de petites marbrures violacées. L'épiderme ne paraît pas se ramollir.

Pas de trouble de la vue.

La malade n'est pas revenue.

Observation XII.

(Cette observation est la seule qui ait été prise en 1897.)

Une femme de 41 ans, ayant une certaine aisance, mange, par gourmandise, des pousses d'arroche, le 15 juin 1897, vers 6 heures du soir, ainsi que son fils. Cette femme a toujours joue

d'une bonne santé. 24 heures plus tard, elle commence à éprouver des démangeaisons à la figure, démangeaisons peu douloureuses et qui ne l'empêchent pas de dormir. Le lendemain, elle se réveille les paupières absolument œdématiées. Elle ne peut les ouvrir et c'est conduite par son fils qu'elle arrive au dispensaire. L'enfant est absolument indemne.

Le 17 juin elle fut examinée. La tuméfaction de la face est considérable; l'ouverture des paupières impossibles. Elle n'éprouve que peu de douleur.

Les oreilles, les mains, le nez sont froids.

La langue est blanche; les selles régulières.

Les mains sont légèrement infiltrées et il y a un peu de douleur au niveau du pouce.

Un purgatif lui est donné.

18.—Les paupières peuvent s'entr'ouvrir et la malade peut se guider. Sous la paupière inférieure, à droite comme à gauche, se voient deux larges taches ecchymotiques.

À la main droite, le pouce est douloureux. Tous les ongles présentent une teinte cyanique. À gauche, le pouce est douloureux. Mais sous les ongles, on ne note qu'une légère pigmentation bleuâtre.

Il y a un peu de photophobie et la malade cache ses yeux de la lumière au moyen d'un mouchoir.

La sensibilité à la piqûre est conservée aux doigts.

Les mains, le nez, les oreilles ont une température au-dessous de la normale.

La langue est blanche. Mais l'appétit est bon; les selles régulières. Pas de fièvre. Sommeil bon.

19.—La malade va très bien. Les yeux sont, maintenant, largement ouverts. Les ecchymoses palpébrales ont une teinte plus noire.

Les mains sont en bonne voie et l'infiltration ne s'y voit plus. Les mouvements des doigts n'ont jamais été gênés. Il y a, encore, un peu de douleur au niveau des pouces. Les ecchymoses sous-unguéales ont pris une coloration plus noire.

20.—La malade se considère comme guérie. Les taches ecchymotiques palpébrales desquament en placards violacés.

N'est plus revenue.

DR. C. C. DE BURGH DALY'S REPORT ON THE HEALTH OF NEWCHWANG

For the Half-year ended 30th September 1897.

ONE birth and one death occurred among the foreign community during the period under review.

The general health of foreign residents has not been as satisfactory as usual, inasmuch as several have suffered from dysentery or continued fever of the peculiar remittent type met with in many parts of China and called by the Chinese *shang-han-ping* (傷寒病). One such case lasted eight weeks, and is only now approaching complete recovery. The only death occurring among foreigners was that of the late Commissioner of Customs, and as his case is of considerable interest, I record it in some detail.

A. P. H., aged 48 years, was on 17th December 1896 bitten in the left forefinger—two small wounds—by his own dog, a large Newfoundland bitch, whilst he was attempting to administer medicine to her.

The dog during her illness developed the following symptoms:—Out of sorts; restlessness; loss of appetite; head hanging down; dull look in eyes; sudden elevation of head with *peculiar bark;* partial paralysis of hind-quarters, causing slight staggering in walking; biting and tearing the leg of a chair, and resenting strongly a collar being placed on her neck; biting a stick pointed towards her and also a small dog put into the enclosure; biting, tearing, and eating the matting in her kennel.

The negative symptoms were:—Paroxysms of fury not well marked; no symptoms about tongue, mouth, or saliva; apparently able to drink water. No attempts to get out of the enclosure. No hallucinations or following and snapping at imaginary objects. Answering readily to the human voice, and betraying no attempts to bite or snap at people.

The dog was shot on the afternoon of the 19th December, in order to hold a postmortem examination before the patient started for Saigon. Bits of matting were found in the stomach and worms in the heart; otherwise the organs appeared healthy.

The patient was advised by me to at once proceed to Saigon, which he did, arriving there on 9th January 1897, 23 days after receiving the bite.

Preventive Treatment.—On 9th January and four following days two inoculations were given, and on the next eight days one inoculation, in all 18 inoculations, in accordance with the simple as contrasted with the intensive method.

He then started for Newchwang, and on arrival here, on 24th February 1897, was in excellent health and spirits, and expressed himself as perfectly satisfied that the treatment was effectual and that there was absolutely no further danger of hydrophobia.

Incubation Stage.—Up to 22nd July 1897 patient enjoyed perfect health, without, he assured me, a thought of any danger; but on that day, 217 days after receiving the bite, he developed the—

Premonitory Symptoms.—Tingling and pain in the left forefinger—the site of the bite.

23rd July.—This tingling and pain spread up the left arm, shoulder, and side of neck.

23rd–24th, night.—Sleeplessness and vomiting.

24th.—Went to the office, but suffered from nausea and slight fever.

24th–25th, night.—Slept well and quietly all night along.

25th, A.M.—Much better; appetite returned; temperature nearly normal.

1 P.M.—While taking a glass of iced water, felt it "catch his breath," and had difficulty in swallowing it. In the evening he readily swallowed, without difficulty, hot tea, and hot soup and rice; but on again trying to swallow water the same difficulty arose, and there was slight spasm of the throat.

25th–26th, night.—Did not sleep at all; very restless.

26th, A.M.—Unable to swallow any kind of fluid, and on taking a bath he had three slight spasms, nevertheless he resolutely persevered, and only failed to wash the soap off his face. When told that there could no longer be any doubt as to the disease he was suffering from, he immediately calmed down, never flinching nor showing the slightest sign of fear at the dread fate awaiting him, but quietly and resolutely made every preparation in case of his death, sent for the heads of departments, settled all official work, and arranged for mechanical restraint if necessary.

During the day the symptoms slowly progressed; there was complete inability to swallow fluids; and at 6 P.M., on making, as he said, "a strike for liberty" by attempting to swallow water, he brought on a slight though well-marked general spasm. Restlessness was a marked symptom, and the action of the heart was quickened and irregular.

26th–27th, night.—Under the influence of chloral he slept fairly well, with deep sighing inspirations, and occasionally started up. His mind commenced to wander, and in the morning of the 27th there was a marked change for the worse.

Hallucinations, with lucid intervals, great restlessness, debility, feeble and irregular action of the heart, were all now present, and the patient, though unable to walk without support, insisted on wandering from room to room, hawking and spitting everywhere—a most distressing symptom. During the day his strength rapidly failed, vomiting set in, the ejected matter being first of all greenish, and afterwards mainly consisted of blood.

Severe general convulsions came on, which rapidly reduced his strength, and after only one display of actual violence, he gradually sank, and passed away at 8 P.M.

The case recorded above is an interesting one from a medical point of view, but a most painful one to the patient's friends, and yet, at the same time, a wonderful example to all, inasmuch as he met this dread disease, knowing full well what it entailed, with marvellous courage and calmness. His thoughts were for others, and especially that he should not be a source of danger to them; and he expressed a wish that his case should be brought to the notice of the public, in order that his death from hydrophobia might possibly save others from a similar fate, should it in any way assist in hastening the establishment of a Pasteur Institute in Shanghai, as it was to the unavoidable delay in preventive treatment that he attributed his illness.

DR. H. R. ROBERTSON'S REPORT ON THE HEALTH OF TIENTSIN AND DISTRICT

For the Eighteen Months ended 31st December 1897.

DURING the period under review the general health of the foreign community has been very satisfactory. No epidemic of any severity has visited the port. Influenza in a mild form occurred in the autumn of 1896, and a few cases have recently come under my notice during the past autumn. Whooping-cough has gone the rounds of the children, both foreign and Chinese, during the summer of 1897.

Although Tientsin may generally be considered a fairly healthy port, still a very large number of cases of malaria are met with annually, chiefly in the spring and autumn. In the spring of 1897 a number of cases presenting all the symptoms of malarial fever came up for treatment, characterised, however, by a subnormal morning temperature, while the evening rise seldom reached 100° F. The morning temperature in many cases was not higher than 96° F., though the malaise, pains in the back and limbs, and thirst were as severe as if the temperature had been many degrees higher. In these cases I found arsenic the most valuable drug. Very many types of fever have come under my notice, though, strange to say, enteric and the so-called typho-malarial, which one would expect to find prevalent, have been of rare occurrence. In the past 18 months only five typical cases of typhoid have come under my care; all these cases, one of which was very severe, resulted in recovery. I may remark that I have little to say in the way of medicinal treatment in these cases, as I have relied entirely on cold sponging to reduce the temperature, and my dietary has consisted almost entirely of sterilised milk.

It may reasonably be expected that in a year or two we shall find less malaria than heretofore, when the stagnant ponds in the Extra Concession have been entirely filled in and the constant moving of malarial soil is no longer necessary.

The erection of waterworks, which has already been begun, should prove another great advantage to the hygiene of the Settlement. Hitherto the community has had to rely for its water supply on the filthy water of the Peiho, taken just below the large native city of Tientsin. The new waterworks and filter beds are to be worked on lines similar to those now existing in Shanghai, and should the proposed schemes for improving the Peiho succeed in bringing the tidal wave up to the Bund, as in former years, it will then be feasible to take the water for the filter beds at high tide.

Still another great boon to the health of Tientsin residents is the establishment of a seaside resort at Peitaiho. Formerly there was no sanatorium nearer than Chefoo; now, however, it is possible, and within the means of all, to obtain a healthy change of air and capital

sea-bathing at Peitaiho, which can be reached in nine hours, eight by rail and one by chair or on donkeys. I cannot speak too highly of this new northern seaside resort. Its natural advantages are many: situated on high, sandy soil, and facing the south to seaward, one gets the benefit of the prevailing southerly winds from the sea all through the months of June, July, August, and September. A low range of hills, which are within half an hour's walk from the seaside, command magnificent views of the larger mountain range beyond. The water supply is excellent, many of the springs being rich with iron. Abundance of pure milk could be had last summer from the neighbouring villages. Already some 40 houses have been erected, and during the past summer most of the ladies and children were enabled to escape from the heat in Tientsin and enjoy the splendid bathing and cool sea breezes of Peitaiho. The thermometer for July and August gave the following average temperature, taken three times daily :—

6 A.M.	NOON.	8 P.M.
° *F.*	° *F.*	° *F.*
78.5	82.5	79.9

This may be well taken as the maximum, and that during the hottest period of a very hot summer. The nights were always cool.

The winter of 1896–97 was characterised by an unusually heavy fall of snow, which remained for a much longer period than usual.

The summer of 1897 has been a very hot and trying one, the heat during August being especially damp and producing quite an epidemic of boils.

There was less cholera than usual in the native city during the summer, but there were a larger number of cases of ague and remittent fever.

The British community has taken the opportunity of the Queen's Jubilee to erect, as a memorial of this record reign, a community hospital and nursing institute. A properly equipped hospital, with complete hygienic arrangements and provided with fully qualified nurses, will fill a much-felt want in Tientsin.

I am unable to give any information as to the work carried on in the Viceroy's Hospital, as no European surgeons or physicians are now attached to it.

The London Mission Hospital is carried on under the able administration of Dr. G. P. SMITH, who publishes annually a report of the hospital work.

In the autumn of 1896 Dr. FRAZER started a daily dispensary for the students at the Imperial Tientsin University under the presidency of Mr. C. D. TENNEY. During the summer the students suffered a good deal from fever and dysenteric diarrhœa; two deaths occurred, one from typhoid and one from phthisis.

Among the foreign residents three cases of appendicitis have come under my care; one, which was a case of the recurrent suppurative form, showed several points of interest. In the spring of 1896 the patient, a missionary, suffered from an attack of suppurative appendicitis, a large abscess forming, which was laid open and drained successfully by Dr. MARSHALL, who, however, was unable to find the appendix, and judged that it had sloughed off. In March

1897 the patient was again laid up with all the symptoms of appendicitis; on the 6th day, as there were evident signs of suppuration, I decided to put him under chloroform, and as the symptoms pointed more to a post-cæcal abscess, I made a careful dissection down to the subperitoneal tissues. Failing to find pus, the wound was left with a drainage tube, and 48 hours after the operation pus found its way into the wound. The patient made a complete recovery, and started for England, where I advised him to see Dr. MAYO ROBSON. I have since received a letter from that eminent surgeon saying that he had operated on the patient, and had found the remains of an ulcerated and strictured appendix, which he removed.

Two accidents of some severity have occurred from falls off ponies. One, a dislocation of the hip on to the dorsum ilii, was successfully reduced by manipulation; the second, a partial dislocation of the ankle with fracture of the external malleolus.

Three boys were severely burnt by the explosion of some loose powder while playing in the Imperial Arsenal.

Twenty-nine births have occurred during the period under review.

There have been eight deaths, from—

Malignant small-pox . . .	1	Embolism	1
Meningitis	1	Malarial jaundice	1
Apoplexy	1	Dysentery	1
Phthisis	1	Sprue	1

The following diseases have come under my notice during the period under review:—

Malarial fever.	Gonorrhœa.	Leucorrhœa.
Enteric „	Pericarditis.	Epididymitis.
Typho-malarial fever.	Hepatitis.	Orchitis.
Scarlet fever.	Bright's disease.	Conjunctivitis.
Gastric „	Scirrhus cancer.	Corneal ulcer.
Pneumonia.	Influenza.	Iritis.
Bronchitis.	Rheumatism.	Glaucoma.
Pleurisy.	Dyspepsia.	Boils.
Tuberculosis.	Hysteria.	Lunacy.
Tonsillitis.	Convulsions.	Cardiac diseases.
Whooping-cough.	Hydrocele.	Mitral valvular diseases.
Dysentery.	Renal calculus.	Aortic „ „
Summer diarrhœa.	Tænia.	Graves's disease.
Sprue.	Jaundice.	Orchitis accompanying malaria.
Small-pox.	Prostatitis.	
Meningitis.	Strictures.	Heat apoplexy.
Appendicitis.	Ovaritis.	Skin, various diseases of.
Alcoholism.	Dysmenorrhœa.	Gastric ulcer.
Syphilis.	Amenorrhœa.	Piles.

Among the operations performed were:—

Removal of scirrhus cancer of left breast (the case was seen early, and the tumour thoroughly and completely excised; there has been no recurrence after more than a year).
Removal of other tumours and glands.
Operation on old traumatic stricture.
„ on scrotal fistulæ.
„ on fistulæ in ano.
„ for appendicitis.
„ paracentesis thoracis, withdrawing 26 ounces of pleuritic effusion.
„ amputations.
„ paracentesis in iritis.
„ removal of congenital fold bending down the os uteri.
„ tapping hydrocele, etc., etc.

Dr. MOORHEAD has had a very successful year in the Tongshan Hospital, having had a large amount of operative work. The in-door patients numbered 381; the out-door, 11,319.

Amputations were performed for—

Forearm, middle third.
„ elbow-joint.
Fingers.

Other operations for—

Removal of tumours.
„ of cervical glands.
„ of fibrous epulis.
Division of canaliculus.
Pterygium.
Entropion.
Distichiasis.
Removal of carbuncle.
Strictures.
Traumatic aneurisms.
Ununited fractures.

The following fractures and dislocations have been treated:—

Simple fracture, thigh.
Compound fracture, radius and ulna.
Simple fracture, tibia.
Compound fracture, tibia and fibula.

Simple fracture, thigh; and dislocated hip-joint.
Fracture, dislocation lumbar spine.
Simple fracture, fibula.
Compound comminuted fracture, three fingers.
„ fracture, radius and ulna.
Fracture, 2nd, 3rd, 4th, and 5th ribs (right side).
Compound fracture, two fingers.
„ „ vault and base of skull.

I append a table showing the average readings of the barometer, hygrometer, and thermometer, with temperature of the river water, rainfall, and force of wind, for which I am indebted to the records of the British Municipal Council.

METEOROLOGICAL TABLE (Average Readings), October 1896 to September 1897.

DATE.	FORCE OF WIND.	BARO-METER.	HYGROMETER.		THERMOMETER.		RIVER TEMPERA-TURE.	RAINFALL.
			Wet.	Dry.	Maximum.	Minimum.		
1896.		*Inches.*			° *F.*	° *F.*	° *F.*	*Inches.*
October	1	30.160	59.0	60.9	65	46	54	0.374
November	1	30.277	46.1	48.9	58	35	49	0.630
December	2	30.174	29.8	31.2	36	21	34	0.138
1897.								
January	1	29.052	25.2	26.5	37	6	30	...
February	2	30.395	27.9	29.5	45	14	34	...
March	2	30.490	39.5	41.4	47	30	38	1.868
April	2	29.095	56.6	60.3	66	51	59	0.777
May	2	29.770	72.9	75.3	78	69	67	0.137
June	1	29.616	63.3	76.5	86	77	73	3.142
July	1	29.671	75.7	79.4	86	78	45	11.724
August	1	29.683	77.7	81.3	86	82	81	5.185
September	1	29.592	72.7	76.0	78	74	71	1.299

DR. JAMES H. McCARTNEY'S REPORT ON THE HEALTH OF CHUNGKING

For the Year ended 30th September 1897.

THIS year has been an unusually severe one for the natives, in many ways. First, the high price of rice was the cause of much suffering, for want of sufficient and proper food, among the poorer people. This scarcity of rice was due to the rains lasting longer than usual, thus not giving the farmers time to dry their harvested crop, which was exceptionally good. Second, not since 1892 has there been so much sickness among the natives. The principal ailment was remittent fever, caused by the unusually large amount of sunshine acting upon the accumulated winter's filth lying in the streets waiting for the early spring rains to wash it away. The rains were delayed several weeks, and this, together with the sunshine, brought the active germination of malarial germs. The fever made its appearance about the 1st March, and became very general throughout the province, the country people especially being severely afflicted; often nearly every member of a family was down with it at the same time. The heavy rains came in April and May, and a marked decrease was soon noted in the number of fever cases coming to the dispensary.

It was said by the natives that the remittent fever during the months of March, April, May, and June claimed more victims than cholera in 1892, and, judging from what I saw, I have reason to believe that they were quite right. There were very few households in the city that escaped its ravages. Native treatment proved of no avail, and those afflicted soon came to realise that the foreign remedy for this disease was the only one to be relied upon.

The native treatment consisted in keeping the patients caged up in an air-tight compartment, for fear the wind should blow upon them, and in giving them hot drinks and hot decoctions of herbs, with the idea of breaking up the fever by producing free diaphoresis. This treatment was continued, if it did not kill the patient, for days and weeks, unless he happened to be constitutionally strong enough to throw the fever off before this time. Relapses were common, and I have known cases to have been confined to bed for two and three months.

There is no definite way by which one could determine the mortality under native treatment, but it is safe to say that it was at least 50 per cent. Of the remaining 50 per cent., at least 90 out of every hundred suffered with cachexia, œdema of the head and face, and in many the hearing was greatly impaired. It took them longer to recover from the effects of the disease than it did from the disease itself. I also noticed that opium smokers had no immunity from the fever, but, on the contrary, were just as susceptible, and the mortality among them was higher than 50 per cent. This was also the case in 1892, when cholera was so bad, which shows that they have no power of endurance and are more liable to succumb when attacked than those who do not smoke.

During this time several hundred applied for treatment at the dispensaries, and nearly 200 were admitted into the wards of the hospital. Many of these latter had had the fever for more than two weeks, and often for over a month, before they came under my notice. Many were admitted into the wards after they had suffered two or three relapses, and when they had become too weak to take a dozen steps without extreme exhaustion.

With this abundance of material at hand, I had a better chance for the study of this fever (which the Chinese dread more than any other, and which they regard as contagious) than I have ever had before.

I am sorry to say that, with my hands more than full, I was not permitted to study the blood of each patient with the microscope, as I much desired to do. Dr. WOOLSEY, my colleague, did a little with the microscope, and in every case examined the malariæ parasites were found in great abundance.

The treatment generally followed was 10 and 20 grains of quinine every two or three hours until the rise of fever, when it was discontinued until the next morning. No antipyretics were given unless the fever reached 103°, when I generally ordered a small dose of antifebrin, cold bath, or cold sponging.

Of the number received into the hospital, two died, the diagnosis in both cases not being clear.

CASE I.—Was taken with what he supposed to be an ordinary cold. He was given quinine and a dose of sulphate of magnesia. The salts of magnesia were followed by nearly a week of diarrhœa, which culminated in what was diagnosed at the time as dysentery. It was treated as such, and readily yielded to treatment. He then had an ordinary run of remittent fever for two weeks, after which the fever gradually declined and he was considered convalescent. Up to this time he had manifested no abdominal symptoms, his tongue was cleared off, and he was gaining in appetite and flesh. Unfortunately, about this time, some friends, thinking to aid his recovery, gave him some preserved fruit, of which he ate freely. His fever went up at once, and diarrhœa recommenced, which I was not able to check, and he died in about a week. These indications seemed to point to typhoid; but he did not have any marked abdominal symptoms, neither did he show any rash. I regret to say no postmortem was permitted, but the fever chart is here given.

CASE II.—Had an ordinary run of remittent fever, lasting about 20 days. At the end of this time he had no fever, his tongue became clean, and he was put upon ordinary diet, which he continued to take for a week, gradually gaining flesh and feeling pretty well. One morning, when making the rounds, he complained of great pain over the abdomen, and on pressure it became unbearable. His fever went up to 102°, and he rapidly developed peritonitis. He died within four days, and as no postmortem was permitted, I was not sure that the peritonitis was caused by perforation.

These, together with one other case two years ago, are the only ones in which there was any doubt as to diagnosis. I have never met with a pure case of typhoid among natives or foreigners in this part, although it has been diagnosed in different places in Szechwan, Kweichow, and Yunnan. The diagnosis made in these three doubtful cases was tropical typhoid.

ILLUSTRATIVE CASES.

CASE No. 1.—A young woman had been ill with high fever for 23 days. Tongue heavily coated; sordes covered the teeth; bowels had not moved for several days; urine scanty and high-coloured; pulse 150. She had been delirious for several days when first seen as an out-patient. She was removed to the hospital and put on heavy doses of quinine. (*See* Fever Chart No. 1.)

CASE No. 2 shows a case of fever complicated with dysentery. The patient, a woman, had been ill for some time before coming into the hospital. The dysentery was stopped in a few days, but the fever continued. I have no hesitancy in pronouncing it dysentery, as she manifested no other typhoid symptom.

CASE No. 3 is one of the cases in which the patient died and the diagnosis was uncertain. At first he had what he supposed was an ordinary cold. He was given quinine and a dose of sulphate of magnesia. In a few days he was taken with what was diagnosed as dysentery. This was soon controlled, and he had no further bowel trouble until within about a week of his death, when he ate some preserved fruit. This set up the bowel trouble again, and I was not able to check it. He died within a week. (*See* Chart.)

During the year there have been three births and one premature labour, and two deaths. One of these, an infant three weeks old, died from eclamptic convulsions caused by congenital stenosis of the bowel. The other case was a French Father who died from dysentery; the dysentery was checked, but the drain on his system was too much for his organically diseased heart, and he died on the 9th day.

Compound Comminuted Fracture of one Month's standing operated upon; the Fragments removed; the two Ends of the broken Bone sawn off and brought together with Silver Wire.—The patient, a boatman, had received a fracture (compound comminuted) of the tibia previous to the time that I saw him, and when he presented himself the leg was greatly swollen and infiltrated with pus from the knee down to the ankle. As he would not consent to amputation, I decided to attempt to save his leg, if possible. Under an anæsthetic, the leg was thoroughly opened up, all the fragments removed, and the ends sawn off square, after which they were brought together with silver wire, the wound packed with iodoform gauze, and the leg put in a fracture-box. His recovery was slow, but uneventful. In about two months he was able to move about on crutches, and within three months he was discharged cured, but with nearly 2 inches shortening.

Several *Operations for the Radical Cure of Hernia* were performed during the year, all of which were successful.

Abscess of Liver.—The patient was a middle-aged man, addicted to drinking. He generally drank between 3 and 4 pints of native wine per day. When he presented himself at the dispensary I found, on examination, an enlarged area of dulness over the region of the liver extending nearly to the crest of the ilium. He had been having high fever, but at this time the temperature did not exceed 100°. Jaundice, constipation, and weak pulse. He came into the hospital, but would not consent to an operation, and in a few days the abscess opened

into the pleural cavity and he began to spit foul-smelling pus. At this time his pulse was so weak that chloroform was contra-indicated, and I decided to aspirate and wait for improvement of the patient before operating. I waited two days; but, as he made no progress, I then decided to operate, as it furnished him with the only chance of recovery. He was put under chloroform and the abscess was quickly opened, and about 30 ounces of foul-smelling pus with numerous shreds were evacuated. The costal end of the 9th and 10th ribs were found to be necrosed. The cavity was washed out with a solution of creoline in sterilised water, and then packed with iodoform gauze. The gauze was removed and the cavity washed out twice a day. The patient was given calomel and muriate of ammonia, and raw egg as a diet. He began to improve, his appetite returned, and, being a Chinese patient, it was with difficulty that he could be kept in bed. He insisted on sitting up and eating anything he took a fancy to. On the 8th day his right lung became consolidated, all but the apex, and he died on the eve of the 9th day from hypostatic congestion of the lungs.

Popliteal Aneurism.—The patient, a Chinese physician, presented himself with a swelling the size of a man's head in the right popliteal space. The centre was discoloured and fluctuated on palpitation. With the stethoscope the aneurism bruit could be distinctly heard over the tumour. He was advised to undergo an operation at once, as delay might cause his death by bursting of the sac, which was about ready to break down. He consented, and the operation of ligating the funnel at the apex of Scarpa's triangle was done. The wound healed by first intention, and although the circulation in the femoral and popliteal arteries was cut off, the tumour did not lessen in size.

In about a week, as the patient had some fever, I decided to open the aneurismal sac and evacuate its contents. For this operation he was put under an anæsthetic and the sac opened. Nearly 35 ounces of dark clotted blood was evacuated, and the cavity syringed out and packed with iodoform gauze. At the time the clot was removed there was very little bleeding, and no serious consequences were entertained. The next morning the foot was found to be quite cold and to all appearances dead. In spite of all that I could do, gangrene soon set in, and the leg was amputated above the knee. The patient died 24 hours after from shock.

I encountered several cases of *Proctitis* among foreigners. Medicinal treatment proved of no avail. The patients were kept upon their backs, and high-up enemas of warm water and salt, 1 or 2 drachms to the pint of water, were given night and morning. With this treatment they soon recovered..

Ligation of the Radial and Brachial Arteries for Traumatic Arterio-venous Aneurism.—The patient was a man about middle age, a physician by occupation. 19 years ago he had his hand lacerated by the premature explosion of an anvil that he was loading to celebrate a marriage feast. The hand healed slowly, as such wounds always do under native treatment. After it healed he had perfect use of his hand; but on the radial side, involving the thumb, index, and middle fingers, extending from the tips of the fingers to about the middle of the forearm, was an immense arterio-venous aneurism. When he kept his hand elevated he suffered no inconvenience, but as soon as the hand was lowered a swelling of the superficial veins took place, attended by great pain. On elevating the hand again the pain and fulness disappeared. By compression of the brachial artery at the bend of the elbow all fulness disappeared.

After consultation with Dr. WOLFENDALE, of the London Mission, I decided to first ligate the radial artery, as there would be less danger of gangrene than if the brachial were ligated. The patient was prepared in the usual way, after which the radial was ligated in the upper third, near where it branches off from the brachial. This ligation unexpectedly produced no effect on the pulse at the wrist, this probably being due to the collateral circulation having been established almost as soon as the circulation had been cut off in the radial. In view of this fact, I decided to ligate the radial in its lower third, which was quickly and easily done before the man had come from under the influence of the anæsthetic. The wounds were closed and bandaged. The dressing was not changed for five days, at the end of which time the stitches were removed, the wounds having healed by first intention.

The condition of the aneurism was not materially changed by this operation, with the exception that the pulsations were less distinct than before. At the end of 10 days I decided to ligate the brachial at the bend of the elbow. An incision 2 inches in length along the inner edge of biceps tendon was made, its centre corresponding to the fold of the elbow. The artery was ligated in two places with large-sized catgut, and the wound closed. The patient complained of a slight numbness of the fingers, which felt cold to the touch for a few days. These symptoms were treated with external heat, and they passed off in less than 24 hours. The patient made a good recovery, and left the hospital a few days after the operation.

I am indebted to Mr. DEICHEN for the following report:—

METEOROLOGICAL TABLE, October 1896 to September 1897.

MONTH.	BAROMETER.		THERMOMETER.					RAINFALL.	
	Highest.	Lowest.	Dry Bulb.	Wet Bulb.	Maximum.	Minimum.	Mean.	No. of Days on which Rain fell.	Quantity.
1896.	*Inches.*	*Inches.*	° *F.*	° *F.*	° *F.*	° *F.*	° *F.*		*Inches.*
October	29.93	29.33	78	75	81	55	66.8	18	5.40
November	29.80	29.24	70	67	73	51	60.5	14	3.25
December	30.00	29.30	63	59	68	31	50.9	8	1.01
1897.									
January	30.04	29.32	60	55	60	39	49.0	5	0.32
February	30.05	29.32	59	54	59	40	48.5	5	0.51
March	29.82	29.26	71	67	72	43	56.6	9	1.11
April	29.76	29.01	85	77	86	53	67.7	3	3.55
May	29.60	28.96	90	82	93	62	73.8	3	3.22
June	29.44	28.86	97	88	99	69	81.0	7	6.98
July	29.28	28.90	97	89	99	70	82.5	7	9.92
August	29.40	29.02	101	90	102	72	88.3	3	1.75
September	29.68	29.17	94	86	95	64	77.1	6	3.38

DR. EDGERTON H. HART'S REPORT ON THE HEALTH OF WUHU

For the Year ended 30th September 1897.

DURING the period under review there have been six births—two girls and four boys.

Considering the very damp state of the soil during the past 18 months and the lack of proper drainage of the land about Wuhu, it is surprising that we have escaped without an epidemic of some kind. The plains about the city have been more or less under water all the year. We have had two very rainy springs and summers, with considerable heat. Though the range of the thermometer has not been very high, there has been a great amount of vaporising, which made existence in the town almost intolerable, particularly about the Customs quarters. Naturally the disease most prevalent has been malaria. 23 cases were under my care among the foreign residents, of whom 15 belonged to the out-door staff of the Customs. Fortunately for the Assistants, they had the privilege of occupying the Commissioner's residence, which is located on high ground, away from the foul drains and bad odours which contaminate the soil and atmosphere about the Custom House and quarters of the out-door staff. I attribute the good health of the Assistants to their having been allowed to vacate their quarters over the Custom House and move to the Commissioner's residence.

During the year I have been called to attend sickness in every house occupied by the members of the out-door staff.

The health of the community has been fairly good, notwithstanding the fact that so extended a list of diseases has to be presented. A number of the cases came from a distance and were treated in Wuhu.

Two were of typhoid fever, which developed in the interior, and the patients were taken sick upon their arrival here. The plan of treatment was expectant: cold baths when the temperature would go up to 103° F.; the bowels evacuated by enema daily, unless the patient had a natural stool during the day; the diet was milk and lime water. Both cases made uneventful and rapid recoveries.

I have had under my care several cases of chronic pelvic peritonitis, and one in which the uterus was retroverted. In all of these cases, besides the usual hot douche once or twice daily, I have had applications of ichthyol and glycerine applied by tampon two or three times a week with splendid results.

The following is a list of the diseases treated among the foreigners during the year:—

Medical.

Asthma.
Bronchitis, acute capillary.
„ catarrhal.
„ chronic catarrhal.
Constipation, chronic.
Coryza, acute.
Diarrhœa.
„ dysenteric.
„ infantile.
Dysentery.
Endocarditis, acute.
Gastritis, chronic.
Gravel.
Hysteria.
Influenza.
Insomnia.
Intermittent fever.
Neuralgia, facial.
Rheumatic fever.
Shrimp poisoning.
Tubercular pharyngitis.
Typhoid fever.
Worms.

Surgical.

Abscesses.
Acne.
Balanitis.
Boils.
Carbuncles.
Chancre.
Contusion, thigh.
Epididymitis.
Erysipelas, facial.
Ganglion, wrist.
Gonorrhœa.
Lymphangitis.
Orchitis.
Otorrhœa.
Sprain, ankle.
„ knee.
Tonsillitis, acute.

Diseases of Women.

Endometritis.
Leucorrhœa.
Ovaritis.
Pelvic peritonitis, chronic.
Retroversion of uterus.

Diseases of the Eyes.

Acute iritis.
„ keratitis.
Acute ophthalmia.

SURGICAL NOTES.

Traumatic Epilepsy: Operation; Improvement.—Last November the patient, a man aged 50, presented himself for treatment at our hospital dispensary. He complained of having epileptiform seizures of considerable severity two or three times a week. He had been subject to these attacks for three years—ever since he received a blow on the head with a pole, which produced a compound depressed fracture of the frontal bone on the right side, a little above the

frontal eminence and towards the median line. Upon examination I found the depression well marked, being ½ inch deep, 1 inch in length, and ¾ inch wide.

The patient was anxious that an operation should be performed in order to help get rid of the epilepsy. The dangers of the operation were thoroughly explained to him; he said he had come prepared to recover or die in the attempt, and assured me that he had brought money with him to pay for a decent burial if the operation should not prove a success.

On the evening of 23rd December, assisted by Dr. BUTCHART, then of Nanking, I made a vertical incision through the skin down to the periosteum to the right of the depression. The skin was then elevated and retracted, the periosteum stripped, and a button was trephined from the upper angle of the depression. From that point we chiselled around the edges of the depression, thus loosening the fragments of bone which had slipped under the frontal bone when the injury first took place. These fragments (three in number) were then carefully drawn out. After freshening the edges of the frontal bone surrounding the depression, the button was replaced, the periosteum and skin sutured, and a small piece of iodoform gauze placed in one corner of the wound for drainage, and the whole covered with an aseptic dressing.

The patient recovered rapidly. His epileptic seizures decreased in severity and frequency, and a ptosis of the left eyelid disappeared two days later.

There was no subsequent rise of temperature.

Necrosis of Tibia, Fibula, Tarsal and Metatarsal Bones: Amputation below the Knee; Recovery.—The patient was a scholar from Hunan, aged 32 years. He was in a very much run-down condition and anæmic. His disease, which was of three years' standing, had made such headway that the only means by which his health could be restored was by the early application of the knife. The leg was amputated just below the knee; two lateral flaps were made. As the arteries were very friable it was found necessary to retain the artery clamps for 48 hours. The wound healed by first intention, and in 10 days the patient was moving about with the aid of a crutch.

Leprosy; Extensive Ulcerations on Leg and Foot: Amputation; Recovery.—The patient, a man 49 years of age, preacher, was sent to us in a dying condition. The disease was of 15 years' duration. His leg was badly ulcerated as well as the foot, which was tremendously enlarged and perfectly useless. The stench which came from the leg was almost unbearable. The patient's condition seemed so hopeless that I hesitated about performing an operation; his pulse was very weak and rapid and breathing shallow. He was put on beef tea and milk, with whisky every three hours between nourishment. In 24 hours his symptoms had improved considerably, and both he and his friends begged for the operation. The leg was amputated that afternoon, just below the knee, making lateral flaps. The result in this case was all that could be desired. When the first dressing was made, five days after the operation, it was found that the flaps had united by first intention.

Gangrene of Leg and Foot following Necrosis of Tibia, Fibula, Tarsal and Metatarsal Bones: Amputation; Recovery.—The patient was a woman of the better class, living in Wuhu, aged 22 years, recently married. The necrosis had been developing for five years—

ever since she had commenced to bind her feet more tightly in order that she might be more pleasing in the sight of her future husband. The gangrene, which was of a few weeks' duration, had been making rapid headway, extending from the toes upward; when it reached the knee she was brought to the hospital. The patient's condition was anything but good; her friends were anxious that an operation should be performed, as this was the only way in which her life could be saved. She was speedily prepared for the operating table, and the quickest method was adopted of giving her relief without keeping her under an anæsthetic for a prolonged period. A circular flap was made at the junction of the lower and middle third of the thigh, the periosteum stripped up and bone sawn through, arteries tied, and sutures being put in within five minutes. The usual aseptic dressings were applied; the patient suffered no shock; the wound healed by first intention, with no rise of temperature or bad symptoms of any kind.

Central Sarcoma of Tibia: Amputation; Recovery.—The patient, a farmer, aged 47 years, was brought to the hospital. The upper part of the tibia was considerably enlarged, the middle portion was protruding through the skin and broken away from the upper, and through the opening a sarcomatous mass was protruding. The disease had begun 20 years before and had steadily progressed. The patient was badly emaciated, and after I had talked over the matter with him and his friends they agreed that his only hope was by amputating the leg. As the knee-joint seemed affected, I amputated at the junction of the middle and lower third of thigh, making a circular flap. The patient recovered rapidly after the operation, and the flaps healed by first intention.

During the past year I have seen and operated upon a number of orbital tumours, which seem to be quite common in this region, besides several cases of sarcoma of the frontal bones. I have had many cases of carcinoma and sarcoma of the breast. My plan of operation is to make an incision away from all tissue which is involved with the cancerous mass and clean the axillary space free of all enlarged glands. If the muscles should be diseased, the portion involved is cut out. Should the skin be insufficient to coaptate, I either graft or loosen the skin and make incisions through it away from the line of incision, which answers very well in many cases.

In the summer a case of tetanus was brought to me. The patient was a young man of about 22 years of age. 20 days before he had received a slight wound on the dorsum of the left foot. On the fifteenth day after receiving the injury he was seized with convulsions, which occurred frequently during the day and night. After being sick five days he was brought to me for treatment. He was put under chloroform, the wound thoroughly scraped out, and a wet carbolic dressing applied. After this slight operation he improved for a few hours. He was given bromide of potassium and chloral hydrate, 2½ grains of each every hour, and at intervals inhalations of chloroform, when nourishing enemata were given. As the patient was not cured at the end of 24 hours, the boy's father would not allow him to remain longer in the hospital. He took him to a Chinese doctor, and the last I saw of him was on the street stiffened out like a board, suffering from clonic convulsive seizures.

I am indebted to the Tidesurveyor, Mr. J. W. ANDREWS, for the appended meteorological table for the year ended 30th September 1897.

METEOROLOGICAL TABLE, October 1896 to September 1897.

MONTH.	THERMOMETER.		BAROMETER.		RAINFALL.		TIDES.			
	Maximum.	Minimum.	Maximum.	Minimum.	No. of Hours.	Quantity.	Highest.		Lowest.	
1896.	° F.	° F.	Inches.	Inches.		Inches.	Ft.	in.	Ft.	in.
October	70	59	30.420	29.980	28	1.63	23	0	17	6
November	69	47	30.480	29.800	47	1.88	23	3	17	6
December	53	34	30.700	30.000	44	1.17	17	4	6	8
1897.										
January	50	33	30.600	29.982	125	2.48	7	3	5	5
February	47	41	30.650	30.072	53	0.36	7	3	4	6
March	51	38	30.450	29.808	217	7.51	14	6	7	10
April	67	51	30.350	29.750	59	3.12	19	6	15	3
May	77	62	30.104	29.666	124	6.67	23	10	19	2
June	85	71	29.990	29.650	30	2.04	26	7	23	8
July	95	67	29.958	29.000	55	0.94	26	9	26	3
August	98	73	29.960	29.061	49	6.34	27	5	26	8
September	92	63	30.856	29.750	105	5.41	27	4	25	11

DR. J. A. LYNCH'S REPORT ON THE HEALTH OF CHINKIANG

For the Half-year ended 30th September 1897.

DURING the past two years there has been a very noticeable improvement in the health of the foreign population at this port. This is to be attributed, in no small measure, to the sanitary reforms inaugurated three years ago and still being actively carried out.

As may be gathered from the appended meteorological abstract, the summer of 1897 was marked by very moderate elevation of temperature. Frequent and heavy rainfalls, however, kept the atmosphere oppressively moist.

During August and September several cases of malarial fever were treated. Most of these were of a mild character, lasting a few days; but two exceptionally severe attacks, occurring in the same family, were remarkable for the changes of type, running successively through the continued, remittent, and intermittent forms, and for their resistance to the ordinary doses of quinine.

Of enteric fever there have been no cases among foreigners since December of last year, when a case lasting six weeks, and complicated, first, with pneumonia, and, towards the close, with cystitis, ended in complete recovery. Very characteristic cases of this disease, following the ordinary course, are from time to time noted among the Chinese.

Not a single instance of summer diarrhœa has to be recorded as occurring in the foreign community; and the epidemic of cholera, which usually decimates the native population in the hot season, was conspicuously absent.

Cases of sciatica, cystitis, Bright's disease, alcoholism, and venereal affections have also come under treatment.

METEOROLOGICAL TABLE, April to September 1897.

MONTH.	BAROMETER.		THERMOMETER.			RAINFALL.	TIDES.	
	Highest.	Lowest.	Highest.	Lowest.	Mean.		Highest.	Lowest.
	Inches.	*Inches.*	° *F.*	° *F.*	° *F.*	*Inches.*	*Ft. in.*	*Ft. in.*
April	30.30	29.70	85	40	56.0	1.92	14 0	8 8
May	30.10	29.57	83	50	66.3	6.22	16 8	10 9
June	30.00	29.55	93	63	74.7	0.93	17 6	13 8
July	29.88	29.62	99	65	80.8	9.87	17 10	15 1
August	29.95	29.39	96	74	85.0	7.62	18 6	15 5
September	30.22	29.81	89	64	72.8	7.64	18 5	15 1

DR. ALFRED HOGG'S REPORT ON THE HEALTH OF WENCHOW

For the Year ended 30th September 1897.

THE former six months, up to March, were not characterised by much illness among the foreign residents, so that there was hardly sufficient material for a detailed Report. The last six months, however, up to the end of September, have not the same good record to show, and very few of the residents have escaped suffering from some ailment or other, diarrhœa during the autumn having been the prevailing complaint.

The earlier part of the year was very wet, and remained comparatively cool to the end of June. Even afterwards the heat was not excessive, and the maximum daily temperature was seldom above 90° F., but the excess of moisture in the air and the frequent advent of rain during the afternoon made the summer a very trying one, and the health of the community suffered in proportion. During the autumn sudden changes of temperature were not uncommon, the difference between the maximum and minimum occasionally being more than 10°.

During the period under review one birth and two deaths have occurred in the community. In the former case, a primipara, labour commenced and terminated in a little over two hours, and was quite normal. Both of the cases that terminated fatally occurred in the autumn, in September. One, a female child of 14 months, had slight diarrhœa for a day or two, which was treated by the parents. On the 3rd day, as the symptoms persisted and the child was much weaker, they called in medical aid. The same evening the child, which had previously refused food, took a hearty meal, and about two hours after had a severe attack of colic with hyperexia, the temperature rising to 108° F. In spite of treatment collapse followed, and by morning the child succumbed. Two other children in the same family had diarrhœa subsequently, but recovered. About three weeks after the mother was attacked by dysentery with profuse diarrhœa and considerable tenesmus. Ipecacuanha in 30-grain doses, along with 15 minims of nepenthe, was prescribed every eight hours, along with occasional enemas of opium and irrigation of colon by nitrate of silver (weak solution). Though the ipecacuanha and enemas were badly borne by the patient, an improvement took place up to the 5th day, when symptoms of collapse appeared, and a few hours afterwards the patient was delivered of a six months' fœtus. No external hæmorrhage occurred, but the diarrhœa still persisted and was accompanied by severe sickness, which greatly exhausted the patient. Signs of heart failure appeared. Stimulants and peptonised food were administered freely, with some effect, and intravenous injection of saline solution with only transient improvement, and the patient died of heart failure on the 7th day.

Several of the residents had attacks of diarrhœa, but in two of them it was very persistent and recurred time after time. In one case, after repeated trials of aromatic powder of chalk

with opium, bismuth, salol, and catechu, recourse was had to peptonising the food, which resulted in cure. The other case was associated with hepatitis and gastric catarrh, and was treated by mineral acids, astringents, and bismuth.

Among the other cases treated were:—

Muscular rheumatism.	Dyspepsia.
Acute diarrhœa.	Otorrhœa.
Chronic diarrhœa.	Boils.
Nervous irritability and prostration.	Anæmia.
Urticaria.	Malaria.
Myalgia and neuralgia.	Pruritus.
Insomnia.	Constipation.
Injury to shoulder and ankle.	Hæmorrhoids.
Rheumatic arthritis.	Small-pox.
„ iritis.	

The case of small-pox occurred on board the steamer in port, and the patient was treated in Shanghai at the General Hospital, and recovered.

METEOROLOGICAL TABLE, October 1896 to September 1897.

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.	
	Highest.	Lowest.	Maximum.	Minimum.	No. of Days.	Quantity.
1896.	*Inches.*	*Inches.*	° *F.*	° *F.*		*Inches.*
October	30.390	30.000	88	63	12	8.63
November	30.440	29.882	75	55	5	1.85
December	30.720	30.134	66	29	4	0.97
1897.						
January	30.652	30.000	66	30	12	5.05
February	30.706	30.104	54	28	20	6.65
March	30.520	29.970	69	38	22	6.42
April	30.330	29.900	77	45	16	7.66
May	30.244	29.600	81	57	20	8.20
June	30.100	29.750	89	62	23	16.55
July	30.082	29.710	95	67	8	0.70
August	30.100	29.500	92	75	14	5.19
September	30.270	29.820	89	63	16	5.88

I am indebted to the courtesy of the Harbour Master for the above summary of the meteorological conditions that prevailed during the period reported on.

7/15/1899

614.0951

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 31ST MARCH 1898.

55th Issue.

PUBLISHED BY ORDER OF

Fr. The Inspector General of Customs.

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1898.

[*Price* $1.]

CHINA.

80918

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1898.

[*Price* $1.]

INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4— * * * * *

I am, etc.,

(Signed) ROBERT HART,
I. G.

THE COMMISSIONERS OF CUSTOMS,—*Newchwang*, *Shanghai*, *Tientsin*, *Ningpo*, *Chefoo*, *Foochow*, *Hankow*, *Amoy*, *Kiukiang*, *Swatow*, and *Chinkiang*, *Canton*.

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A. SHARP DEANE, F.R.C.S. ..... Pakhoi.

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ROBERT H. COX, F.R.C.S. ..... Shanghai.

DR. C. C. DE BURGH DALY'S REPORT ON THE HEALTH OF NEWCHWANG

For the Half-year ended 31st March 1898.

ONE birth and two deaths occurred.

The fatal cases were enteritis and chronic Bright's disease.

The foreign residents did not enjoy as good health as usual, as, in addition to the above, two cases of pneumonia, one of gangrene of the foot and leg (which ended fatally after amputation in the Shanghai General Hospital), and one of remittent fever of the local type, lasting eight weeks, occurred. A case of severe compound dislocation of the thumb gave grounds for anxiety, owing to suppuration; recovery, however, took place, though the joint remains ankylosed—a fairly satisfactory result, considering the severe nature of the injury and the age, over 50, of the patient.

The roads, etc., are as filthy as ever, and no attempt has been made to lessen the danger of the food and water supply being polluted.

DR. JAMES H. McCARTNEY'S REPORT ON THE HEALTH OF CHUNGKING

For the Half-year ended 31st March 1898.

WITH the exception of four cases of remittent fever, no illness of a serious character has affected the foreign community during the six months under review. There were three births and two deaths. One death was that of a French Catholic priest from dilatation of the heart, and the second was a Japanese servant from remittent fever. Several of the foreign children were down with measles, as well as one adult. Two or three of the cases were complicated with capillary bronchitis, and their convalescence extended over a considerable period. Measles, mumps, and small-pox were epidemic among the Chinese. Very frequent sequelæ noticed among the poorly-fed children after measles are cancrum oris and ulcerated cornea. I have often undertaken the treatment of cancrum oris, but no treatment in my hands has proved of any avail, the little sufferers invariably dying in from one to two days.

My out-patient department, which numbered last year over 38,000, furnished many interesting cases of skin diseases. Among the rarest of these, herpes zoster was encountered several times. In every instance good results followed the daily painting on of tincture of iodine. Previous to this I had never seen this treatment strongly recommended, but will feel inclined to follow it in the future.

I have more than once stated that I did not believe that typhoid pure and simple occurred in this port, and I am still of this opinion, although the following case came nearer to it than anything I have seen among several hundred cases of fever treated in the wards of the general hospital. I diagnosed the case typho-malaria or, according to DAVIDSON, tropical typhoid. The patient, a young doctor out from England about nine months, and after hard study of the language, was generally run down in health. He noticed several days before he took his bed that he had some fever, complained of feeling tired, loss of appetite, and general malaise.

When I first called I found him with a temperature of 103° and over, bowels constipated, etc. I ordered 2 grains of calomel to be given every hour until 10 grains had been taken, with 15-grain doses of quinine every two or three hours until complete cinchonism was obtained, and antifebrin if the fever reached 103°. The calomel had the desired effect, and the bowels moved freely. From this time on for over 10 days he was troubled with diarrhœa, the bowels moving six and eight times in the day and quite as often in the night. The stools were characteristic of typhoid. He had no spots nor tenderness, but gurgling in the right inguinal region. The quinine given made him sick at the stomach, and after the first four or five days it was discontinued, and only antifebrin given, in 2-grain doses, if the fever rose to 103°. His temperature was kept down with cold sponging. Nepenthe with bismuth solution was given for the

CHART No. 1.

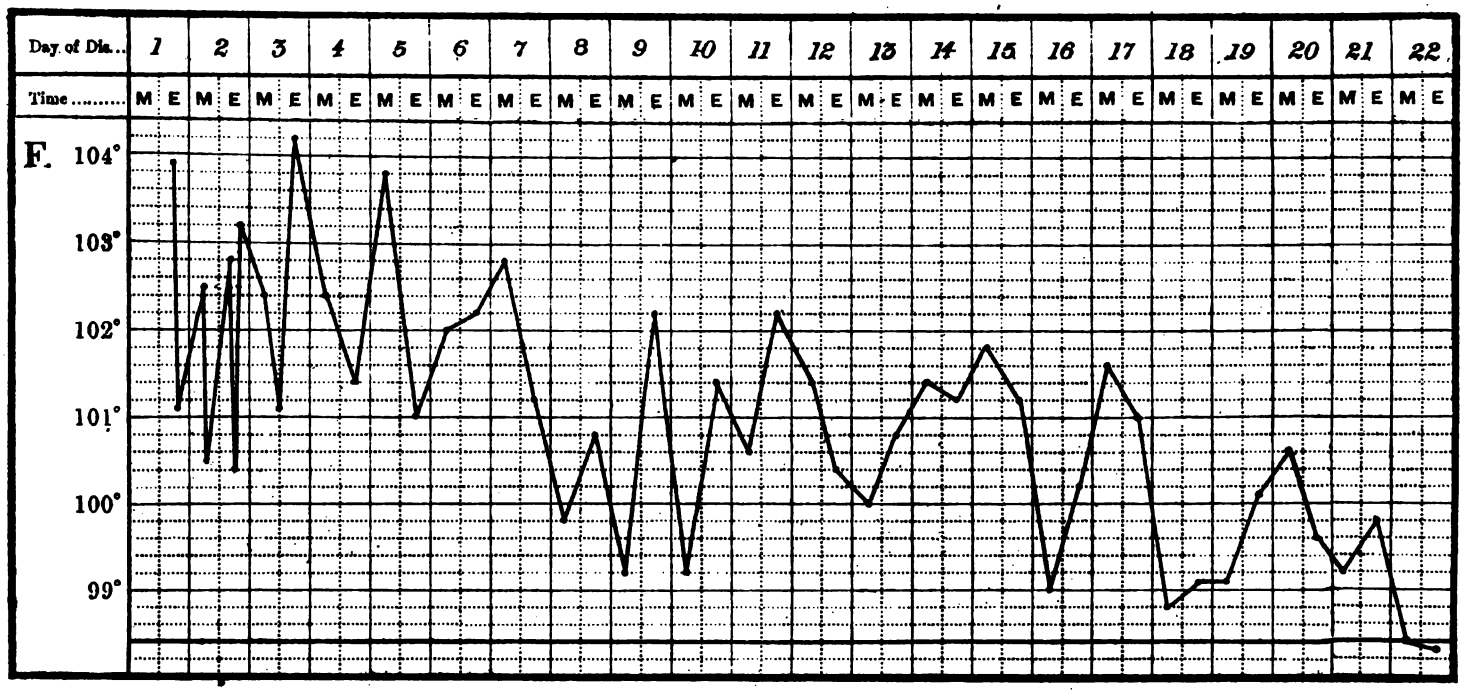
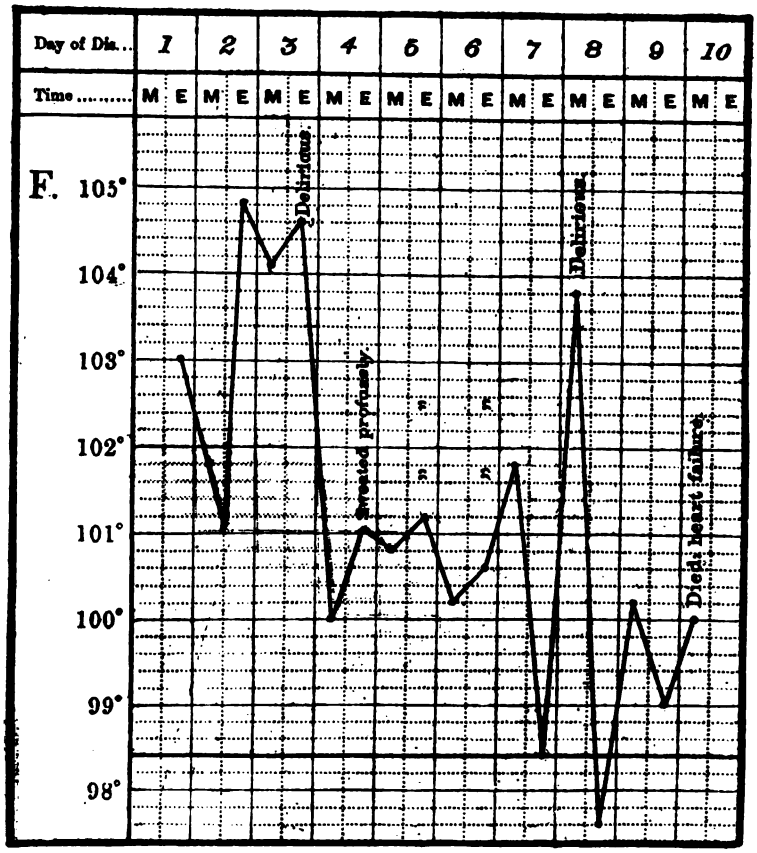


CHART No. 2.



diarrhœa. His fever became normal on the 21st day, and his recovery was uneventful. Outside of his stools he presented no other symptom of typhoid. (*See* Chart No. 1.)

In every case of remittent fever treated among foreigners, quinine seemed to make them sick at the stomach when given in large doses. 5-grain doses given every hour did away with the tendency to nausea and had the same effect as larger doses.

CASE I.—*Attempted Suicide by cutting the Radial Artery: Pulseless; restored by subcutaneous Injections of normal Saline Solution.*—The patient had been accused of stealing clothing, and out of revenge, attempted to take his own life. He chose as his instrument a sharp vegetable knife, and did his job neatly. His friends succeeded in checking the bleeding by binding the arm with some vegetable fibre, but not until the man was pretty well bled out and had become unconscious.

In this condition he was brought to the hospital. At first permission to carry him through the gate was refused, as he seemed to be in a dying condition; but on second thought he was allowed to pass into the hospital compound, that I might see what could be done for him. His extremities were cold, no pulse was perceptible at the wrist, and he was as bloodless looking as possible. I determined to try normal saline solution, not by transfusion, but by subcutaneous injection. I accordingly prepared a solution, 1 drachm to the pint of lukewarm water (distilled), and injected 16 ounces, with an aspirating needle, into the subcutaneous tissue on the back between the shoulders. This was followed by hypodermics of strychnia, digitalis, and enemas of beef tea.

In about an hour after the injection was made the pulse was perceptible at the wrist, the extremities became warmer, and another 16 ounces were injected. Two hours after this his pulse was full and strong, and he had no appearance of having lost any blood at all.

I have related this case on account of the prompt and complete reaction which followed the injection of the saline solution.

CASE II.—*Remittent Fever: Died.*—The patient had been ailing for a week or more before I saw her. When seen she complained of bones aching, headache, loss of appetite, tongue coated, and constipation. I ordered calomel, 10 grains, 2 grains to be taken every hour. Her bowels acted freely. The large doses of quinine given made her sick at the stomach, and as she continued to have high fever (104°), she was removed to the hospital. Here, as seen by the chart (No. 2), she was delirious. Would get out of bed and run out of doors; would insist on sitting up to urinate. In the morning the pulse would be about 108 or 109, and in the evening 120. She manifested no bad symptoms, with the exception of her rambling talk. Small doses (2 grains) of antifebrin made her perspire profusely. She continued thus until the morning of the 10th day, when she died. She was reported all right at 5 A.M., when the nurse washed her face and hands. The only reason I can give for her sudden death is that she must have sat up when her face was being washed, and died from heart failure.

CASE III.—*Ununited Fracture of Patella treated by Wiring: perfect Result.*—The patient was a chair coolie, and had fractured his patella some months ago by falling while carrying a chair. When he presented himself at the dispensary his leg was utterly useless, as

far as having any control over it in walking. He could no longer carry a chair, and came as a last resort to see if I could do anything for him. He readily consented to an operation; but as he was a heavy alcohol drinker, and had organic heart disease, I refused to give him an anæsthetic, and performed the operation under the local anæsthetic, cocaine. A bandage was thrown round the leg above the knee, and, the circulation being then interfered with, I freely injected a 4 per cent. solution of cocaine, without any bad symptoms. He had very little pain during the operation, which occupied about 15 minutes. A transverse incision was made over the fracture; the broken ends of the bones were scraped and drawn together by three silver wire sutures. The leg was put up in a posterior splint and not opened for 10 days, healing by first intention; no fever; recovery, with perfect use of leg.

CASE IV.—*Compound Fracture of Humerus; Simple Fracture of both Femurs.*—The patient was a young lad employed in Mr. A. J. LITTLE'S wool-packing establishment in driving a horse in connexion with the wool press. Through carelessness, his clothes got fastened in the shafting which connected the horse-power with the press and was less than a foot above ground. Before he knew it, he was being whirled round and round the shaft, and before the horse could be stopped the lad had sustained a compound fracture of the left humerus and a simple fracture of both femurs. The humerus was put up with a posterior splint and extension was applied to each leg. At present he bids fair to recover, with little or no shortening of the legs.

DR. HERBERT J. HICKIN'S REPORT ON THE HEALTH OF NINGPO

For the Half-year ended 31st March 1898.

IN the period under review the health of the foreign community has been good. There are neither deaths nor epidemics to chronicle, and no cases of critical illness among the foreign residents. There were one or two cases of acute dysentery of mild type, yielding readily to treatment by ipecacuanha in large doses. In addition, there were a few cases of malarial fever, diarrhœa, and bronchitis.

A case of severe urticaria illustrates the dangers which may arise from eating shell-fish in hot weather. Two days after eating crab, the patient was seized with intense epigastric pain and oppression, followed in a few hours by an almost universal raised rash, involving the whole of the trunk and limbs. It was extremely irritable and distressing to the patient. The patches were unusually large, from the size of a 10-cent piece to a dollar, figuring out the affected parts with circular patches reminding one of a bold brocaded dress pattern. Treatment by sedatives and salines effected a cure in the course of 48 hours.

Among the natives, dysentery is one of the diseases most frequently met with, next to the malarial fevers. It is rarely fatal when seen early and treated with ipecacuanha in large doses; and even untreated it is not often fatal, but verges into the chronic form, and a cure ultimately occurs after the lapse of months of suffering.

Leprosy is found to a small extent in the country districts near Ningpo. Elephantiasis is tolerably common around here. In Huang-yen, a division in the prefecture of T'ai-chou, it is extremely prevalent. It appears to be endemic to the low-lying plains, and to bear no relationship, as has been supposed, to either leprosy or ague, though these often co-exist in the same places—since I know of districts in this province where ague is exceptionally prevalent while leprosy is unknown and elephantiasis is extremely rare; at other places elephantiasis and ague are very common and leprosy is rarely found.

Another peculiar disease has been met with this year, viz., ainhum. It occurred in a woman. One toe was hanging on by a narrow pedicle of skin and tendon only, the bone having been absorbed. There was not the slightest evidence of any ulceration. Probably the disease commences from within, as a localised rarefying osteitis which absorbs the bone and leads to contraction of the soft parts. This makes the third or fourth case which I have seen in this province during a period of 10 years. I do not think it has hitherto been noted as a disease occurring among Chinese.

DR. B. STEWART RINGER'S REPORT ON THE HEALTH OF CANTON

For the Year ended 31st March 1898.

THE summer of 1897 was, as is usual in this locality, prolonged; but the excessive heat was somewhat modified by several storms and cool intervals, from time to time, which had a similar enlivening influence on the heat-oppresed residents of Canton as the oasis is said to produce on the weary traveller in the desert. The hot season brought with it the usual series of tropical complaints, and the following list contains the most frequently treated diseases during the 12 months under review:—

Typhoid fever.
Remittent fever.
Intermittent fever.
Influenza.
Small-pox.
Measles.
Periostitis.
Eczema.
„ from varnish poison.
Acne.
Ringworm.
Urticaria.
Herpes.
Boils.
Abscess.
Ophthalmia.
Iritis.
Conjunctivitis.
Inflamed auditory meatus.
Abscess of auditory meatus.
Obstruction of auditory meatus by cerumen.
Phimosis.
Gonorrhœa.
Orchitis.
Urethral stricture.
Syphilis.
Adenitis.
Stomatitis.
Glossitis.
Tonsillitis.
Dyspepsia.
Colic.
Diarrhœa.
Dysentery.
Hepatitis.
Nephritis.
Lumbrici.
Hæmorrhoids, internal.
„ external.
Rectal fistula.
Anal fissure.
Dysmenorrhœa.
Asthma.
Bronchitis.
Phthisis.
Cardialgia.
Palpitation.
Apoplexy.
Neuralgia.
Gout.
Rheumatism.
Incised wounds.
Contused wounds.
Sprains.
Burns.
Dog bites.
Insect bites.
Fish bones in throat.

Quite an epidemic of a febrile complaint took place at the commencement of the cool season. It set in with the north wind in September and October, and in six weeks over 40 cases were attended. The symptoms commenced by a sensation of general malaise on the part of the patient, and disinclination for work or food. After 24 hours of such discomfort the temperature would be found to be 100° or 101° F., and for the next few days, as a rule, it continued high, sometimes reaching 104° or over. The temperature was, however, very irregular and quite uncertain, occasionally gradually reaching its highest point in a few days, then slowly descending to normal; or sometimes showing a morning remission and evening rise; and, again, sometimes remaining stationary for several days, morning and evening. The fever, however, was of short duration, continuing from three to six or seven days. Every case was accompanied by aching pains, more or less severe, in the back and limbs, many joints also were painful, and in a considerable per-centage of cases an erythematous blush appeared over the affected joints, rendering the skin very irritable, though fortunately the rash was very transient, often lasting only a few hours. Severe headache was of frequent occurrence, also nausea and vomiting, with dry tongue and skin; and in all cases the subsequent prostration was most marked, and in many instances out of all proportion to the severity or duration of the fever. No catarrhal symptoms were present. It will be seen from the foregoing observations that, although the complaint was neither true dengue fever nor influenza, the symptoms seemed to be a modification of the two diseases. The treatment was simple, namely, quinine in 5-grain doses, continued in smaller quantities for several days after a normal temperature had returned. Phenacetin, 5 to 10 grains, was given for high temperature and burning skin, antipyrin relieved headache, and a boric acid dusting powder was found useful for the erythema. Liquid, nourishing diet, and stimulants when needed, were the articles of food employed.

Of the cases of dysentery, one was of a very acute form, following an attack of some years before. The patient was removed to Hongkong, where, I regret to say, the disease was followed by hepatitis, complicated with suppuration, which terminated fatally.

Another death, from apoplexy, has to be recorded.

There were six births, the obstetrics being normal and uneventful.

The small-pox cases were mild, and all recovered without untoward results. The same may be said of the typhoid; and in this connexion it is pleasing to be able to note that the young man mentioned in last Report as having nursed a serious case of small-pox, and who was subsequently attacked by typhoid fever, completely recovered and was transferred to a cooler climate.

In February 1898 bubonic plague broke out in the native city, and continues up to date, though, so far, the disease has not assumed alarming proportions. It is impossible, however, to foresee at present whether the complaint will subside early, as in the two previous years, or whether a repetition of the severe epidemic of 1894 will take place. We can only hope not, but time will show.

DR. A. SHARP DEANE'S REPORT ON THE HEALTH OF PAKHOI

For the Year ended 31st March 1898.

DURING the first part of the year under review the health in this district caused some anxiety among the Chinese, owing to the appearance of bubonic plague early in April. From this month until July the port was infected, and steamers leaving for Tonkin cleared with foul bills of health. July and August passed with very little sickness of any kind, but September and subsequent months brought various epidemics among the native population and foot and mouth disease among cattle.

FOREIGN RESIDENTS.

The health of the foreign community was very satisfactory, and though most of them were freely exposed to infection, all escaped the various epidemics prevailing among the Chinese; but the depressing influence of our very long hot season caused some to seek a change to a less relaxing climate, if only for a month's respite from the all-pervading sense of lassitude, which none can shake off, during the months the wind blows up the Gulf of Tonkin.

A case of phthisis, of three years' duration, sent to Pakhoi a year ago in a dying condition, has greatly improved. On arrival here both lungs were very extensively diseased, and the sputum contained large numbers of tubercle bacilli. Now, however, the disease has become quiescent and fibroid changes are taking place in the diseased portions of the lungs. Night sweating has ceased, and the bacilli have disappeared from the sputum. The patient is gaining weight, and although the capacity of the lungs has been considerably curtailed, still, with care, enough healthy tissue remains to carry on life with comfort.

NATIVE POPULATION.

Bubonic Plague.—The first death from this disease was reported during the middle of April. From that date until the 19th May there were 20 deaths in the town. The disease then disappeared until the middle of June, when a recrudescence occurred in the immediate vicinity of the Custom House. In three houses close to this building it claimed five victims, and 45 other fatal cases were reported from the eastern district of the town, making in all, as far as can be ascertained, 70 deaths, in a population of about 20,000 inhabitants, from the middle of April to the end of the first week in July. Since then there have been no cases of bubonic plague in Pakhoi.

Remittent Fever.—A variety of this disease prevailed from September to the early part of November, affecting adults and children alike, with a very high mortality among the latter. It assumed the form of an epidemic, and the district most severely affected was to the north of us, on the other side of the bay, in the direction of Kwangsi.

Having had various opportunities of observing the disease, I found some of the cases closely resemble the fever found along the Yangtze during the latter part of the autumn, but in the majority of instances differing from it and from the remittent fever I have seen elsewhere, in that nervous prostration setting in early was characteristic of this outbreak. (An epidemic of remittent fever occurred here in 1893—June to August—characterised by diarrhœa.) Diarrhœa was absent in the present epidemic, but delirium among adults, ending in profound coma and death, and symptoms that might be mistaken for meningitis in children, were frequently observed. Remissions in the temperature were, as a rule, well marked. The thermometer rose as high as 108°, but usually stood at 104° or 105° in the axilla during the evening, falling to, or near, the normal line, and occasionally even below it, in the early morning of each day. The low readings across the temperature chart carried a tolerably straight line, while the higher readings above 100° were out of all proportion to any cause which could be assigned to their irregularity.

The duration of an attack was about 21 days. Defervescence occurred rapidly, but convalescence was very protracted.

Drugs seemed to have little effect on the course of the disease. The cold bath to reduce the temperature, careful feeding and nursing, and the free administration of stimulants—whisky or brandy in small, frequently repeated doses—gave the patient the best chance of recovery.

Measles, during December and January, visited nearly every house in the district, and bronchitis was often a concomitant affection.

Diphtheria.—The first and only case of this affection I have known at this port occurred during January, in a child 5 years of age. The disease ran a rapidly fatal course, death being due to septic infection, not to asphyxia. The house in which the child lived was in a very insanitary condition, the air being impregnated with sewer gas from an obstructed drain in the basement.

Circumcised by a Dog.—As is well known, dogs in China act to a certain extent as scavengers of the houses to which they belong, and injury to the penis and scrotum of an infant during the act of defecation, due to the bite of a dog, is an accident which occasionally happens.

Some time since I treated such a case in an infant 6 months old. While the child was being held out to defecate, a dog, which is always by on such occasions, made a snap at the passing motion and accidentally caught the child's penis in its teeth, and to all appearance nipped it off close to the skin below the pubes. However, on examination it was found that the penis had retracted deeply into the tissues behind the pubes, and on being drawn forward was seen to be divested of its entire cuticular covering, but was otherwise uninjured. The preputial mucous membrane not having been torn away, the wound was treated as in the operation for circumcision, with the result that the child now has a normal penis, with a new covering derived from the skin immediately below the pubes.

Cattle Disease.

Foot and Mouth Disease among cows and buffaloes, an affection previously unknown in this place, appeared as a widespread epidemic, lasting from January until late into March. In

some villages the whole herd became infected, while in others, under precisely similar circumstances, a portion only of the cattle contracted the disease; and, as far as I can ascertain, buffaloes were just as susceptible to infection as were cows.

Symptoms.—(*a.*) *The Mouth* first showed evidence of the disease. Champing and making a smacking noise with the lips, disinclination to feed, frothing and dribbling of tenacious saliva, were among the first signs. On examination of the mouth, there was hyperæmia of the mucous membrane, with thickening of the epithelium, and the formation of yellowish white patches on the gums, cheeks, and lips. The tongue assumed a creamy appearance, changing to a dirty brown colour after some days; the breath then being extremely fetid. As the disease progressed the epithelial covering of the tongue was cast off, leaving, as a rule, a clean, new epithelial surface, but ulcerating patches remained in some of the animals. In one cow the epithelium was noticed to be separating all round the edge of the tongue, floating in the saliva like a fringe. In another case this process went on until nearly the entire covering of the tongue was cast off in one piece and hung from the mouth like a piece of dirty wet felt. It was more usual, however, for the tongue epithelium to be shed in small pieces. The necrosed portions of epithelium on the mucous membrane were similarly cast off, leaving, if not ulcerated, very tender epithelial-covered patches behind them.

(*b.*) *The Nose* was affected in very much the same way as the mouth. A thick, yellow, fetid discharge issued from the nostrils. Ulceration of the mucous membrane occurred, and was particularly obstinate when situated at the lower part of the anterior nares, due to decomposition of the discharge, the septum in some cases being ulcerated through.

(*c.*) *The Feet* soon became affected, as evidenced by lameness, varying from a slight limp to total inability to rise off the ground. The skin between the clefts of the hoofs was hyperæmic and very tender to the touch; ulceration with fetid discharge frequently followed; and it was not uncommon for the horny covering of the hoofs to be cast off *en masse*, just like a shoe.

Duration.—The disease ran a course of from 15 to 20 days, being at its height about the 8th or 10th day from the commencement of the attack.

Mortality.—Except in the case of old cattle and young calves, the death rate was very low. When the disease first appeared, some of the Chinese, fearing it would be surely fatal, had their infected animals slaughtered and sold the meat for human food, but soon regretted this action, as it was found that by patient and careful hand-feeding the animals in all probability would have recovered. Six milch cows supplying milk to foreigners became infected; one was slaughtered, the others recovered. Three of their calves died, one from starvation and two from infection, while the other three escaped.

Milk.—The secretion of milk in cows that were carefully fed altered very little in quantity, and apparently not at all in quality. As to whether it was capable of conveying infection, no opportunity was given of putting this to the test.

Treatment.—Of the various drugs prescribed by the Chinese, cinnabar (native sulphuret of mercury) internally produced a decidedly beneficial result; but hand-feeding with carefully prepared, suitable food formed the most essential part of the treatment, and those who failed to carry it out, or were unable to afford the expense, almost invariably lost their cattle.

Remarks.—From various reports that reached us from Hongkong and Canton, it would appear that a similar epidemic affected cattle in the eastern part of this province simultaneously with the outbreak at this port; and judging from what could be gathered from such sources, the disease must have been of a very much more virulent type in the districts round Canton city than anything we experienced here, for the death rate in those districts seems to have been extremely high.

How far the affection of the mucous membrane extended down the alimentary and respiratory tracts, if at all, I am unable to say, as I was not in a position while the disease was prevalent to make a postmortem examination, being engaged on other work at the time; but certainly, in the cases that occurred in the vicinity of this port, the animals suffered neither from diarrhœa nor from pulmonary complications, nor was there any evidence of the mucous membrane of the vagina being involved.

METEOROLOGICAL TABLE, April 1897 to March 1898. (Latitude, 21° 29′ N.; longitude, 109° 6′ E.)

MONTH.	THERMOMETER.			RAIN-FALL.	MONTH.	THERMOMETER.			RAIN-FALL.
	Highest.	Lowest.	Mean.			Highest.	Lowest.	Mean.	
1897.	° *F.*	° *F.*	° *F.*	*Inches.*	1897.	° *F.*	° *F.*	° *F.*	*Inches.*
April	92	60	75.16	0.87	November	90	52	70.95	4.62
May	96	72	86.40	2.05	December	76	46	57.90	2.25
June	97	75	86.46	21.26	1898.				
July	93	70	83.87	7.63					
August	92	75	82.47	29.59	January	78	45	60.60	0.85
September	93	70	85.15	4.77	February	80	49	63.80	0.25
October	93	68	77.04	9.18	March	86	47	66.85	0.09

RAPPORT

SUR

LA PESTE BUBONIQUE À MACAO ET LAPPA EN 1897.

PAR

Le Docteur J. GOMES DA SILVA.

L'ÉTRANGE maladie qui depuis ces dernières années désole le sud de la Chine a vivement excité l'attention des sociétés médicales chez les nations civilisées. La mortalité épouvantable qu'entraîne cette maladie, quelque chose comme 97 pour cent, rappelle à l'esprit ces temps bibliques, où le Seigneur, de sa main toute-puissante, châtiait la pauvre humanité et la frappait de l'écrasante trilogie—peste, famine, guerre. Après avoir lu et étudié avec attention les rapports médicaux publiés sur les régions infectées, on a reconnu qu'on est bien en présence de la peste bubonique, dont le nom, rayé depuis longtemps des traités de pathologie, n'appartenait plus guère qu'à l'histoire.

Macao et Lappa, deux ports situés dans le voisinage de Canton où l'épidémie éclata d'abord en 1894, et Hongkong, où elle se propagea la même année, ne reçurent sa visite que l'année suivante, en 1895. Soit effet des énergiques mesures prophylactiques prises par le Gouvernement de Macao et puissamment secondées par le Commissaire de la Douane Impériale, soit tout simplement caprice de l'épidémie, le fait est que Macao et Lappa demeurèrent pendant toute une année indemnes de l'horrible maladie qui en 1894 fit tant de victimes dans les vastes cités de Hongkong, Canton et Macao, et en général sur toute la côte méridionale de l'Empire chinois.

Les autorités de Hongkong ont fait aussi tout ce qu'il était en leur pouvoir pour enrayer l'épidémie dans leur riche et florissante colonie; malheureusement, elles semblent n'avoir pris qu'à contre cœur des mesures de rigueur, et le résultat est que la maladie s'y est établie sous forme endémique. Dès lors, chaque année, au commencement du printemps, la peste reparaît d'une façon plus ou moins grave, soit qu'elle limite son action à la population indigène, soit qu'elle frappe les résidents étrangers, européens compris.

À Canton, on n'a pas même essayé de prévenir l'épidémie. Ce serait d'ailleurs, à mon avis, du temps, du travail, et de l'argent perdus, attendu que, vu le déplorable état sanitaire de la vaste métropole du sud de la Chine, toute hygiène publique est impossible.

Il est donc à craindre que chaque année la peste bubonique ne fasse sa réapparition à Macao et à Lappa, même dans le cas où l'on parviendrait à améliorer d'une façon notable les conditions sanitaires de ces deux ports.

Tout ce qu'on pourra faire—et c'est déjà beaucoup—sera de diminuer la virulence des épidémies en prenant d'avance certaines mesures d'hygiène.

Les épidémies de Hongkong en 1894 et de Macao en 1895 ayant déjà été rapportées dans des documents officiels,* et l'endémie de 1896 n'ayant été qu'une faible image des épidémies antérieures, je ne m'occuperai ici que de l'épidémie foudroyante qui aurait assurément éclaté à Macao en avril 1897, si d'énergiques mesures n'avaient été prises dès le début par les autorités de la colonie portugaise.

Je n'en donnerai qu'un simple résumé, suffisant d'ailleurs pour en tirer des conclusions qu'on ne trouvera pas, je l'espère, dénuées d'intérêt pour la science.

Le matin du 19 mars de l'année dernière, la Sœur ANGÉLINE, du couvent des Sœurs italiennes à Macao, se trouva indisposée, et souffrant de maux de tête assez violents pour l'obliger à garder le lit—fièvre 39°. On n'y attacha pas d'importance, la malade et ses compagnes espérant que dès le lendemain l'indisposition disparaîtrait. Le soir, pourtant, le malaise augmenta, et la fièvre monta à 40°. Des nausées et autres symptômes, de peu de gravité encore, s'étant manifestés, je fus appelé près de la malade.

Examen fait, des symptômes assez prononcés pour autoriser un diagnostic sûr manquaient encore; ils se bornaient à de la céphalalgie, langue légèrement enduite de blanc, pouls à 90, un peu fort, mais rhythmique, fièvre assez élevée, mais dont le type ne pouvait être saisi, dès ce premier examen. D'un autre côté, l'état sanitaire de la ville et de ses environs ne pouvait susciter le moindre soupçon de l'existence d'une maladie infectieuse quelconque—sauf la variole; et la mortalité générale se maintenait au-dessous de la moyenne.

La Sœur était âgée de 32 ans, forte, bien bâtie, avec un tempérament bien équilibré sur le névro-sanguin, n'ayant jamais été malade sérieusement.

Elle n'était à Macao que depuis le 1er février; le vapeur de la malle qui l'avait apportée avait touché à Bombay, où siégeait déjà la peste bubonique; mais la Sœur n'était pas descendue à terre, et pendant le reste de la traversée, n'avait pas ressenti la moindre indisposition. À Hongkong, la Sœur ANGÉLINE ne s'était arrêtée que pendant quelques heures; et, à Macao, du 1er février au 18 mars, elle s'était toujours bien portée.

Faute d'éléments suffisants de diagnostic, je me bornai à prescrire l'antipyrine à dose fébrifuge et à recommander le relevé de température toutes les six heures.

Le lendemain, la température tombait à 39°.5 et toute céphalalgie disparaissait. La langue pourtant se présentait typhoïde, pointue, sèche et tant soit peu fuligineuse sur le dos, humide et rose sur les bords. Le pouls, qui était tombé à 120, présentait tous les autres caractères normaux, modifiés à peine par une certaine dureté déjà observée la veille. Je songeai à une fièvre typhoïde; et comme la malade conservait ses forces bien qu'ayant perdu l'appétit, je prescrivis un éméto-cathartique.

Le 21, la température était montée à 41°, et, de plus, la langue était sèche et présentait un V fuligineux sur le dos. En outre, un empâtement ganglionaire diffus, très-douloureux, à la cuisse gauche, un peu au-dessous de l'arcade crurale m'était signalé.

Il n'y avait plus de doute possible. Je me trouvais en présence d'un cas bien net de peste bubonique, le premier que l'on constatait cette année à Macao. On peut aisément se figurer les

* "The Epidemic of Bubonic Plague in Hongkong, 1894," note publiée dans *The Hongkong Government Gazette*, 13 avril 1895, page 398. *A Epidemia de Peste Bubonica em Macau*, 1895.

précautions dont j'entourai ce premier cas, afin d'empêcher qu'il ne devînt la source d'autres cas, et à l'établissement des Sœurs et au dehors.

La température, qui pendant la nuit avait atteint son maximum de 41°, s'y maintint pendant une période d'état qui alla du troisième au sixième jour (21 mars).

Dès lors la défervescence commença par degrés assez réguliers jusqu'au 29 mars, date à laquelle la fièvre disparut tout à fait.

Pendant ce temps, le bubon crural, moins douloureux qu'aux premiers jours, s'était induré et défini dans une adénite circonscrite au dehors de l'artère fémorale.

Dès qu'on eut connaissance dans la ville du cas de la Sœur ANGÉLINE, on prit toutes les mesures prophylactiques de rigueur pour entraver la peste, au moins sous sa forme épidémique. On désinfecta les endroits les plus favorables au développement de l'épidémie, c'est-à-dire, les ruelles en cul-de-sac, si nombreuses dans le quartier chinois de Macao; défense fut faite à l'hôpital chinois de la ville d'accepter des malades fiévreux, quand même il n'y aurait pas encore apparence de bubon, et ordre fut donné que ces malades devaient désormais être reçus et soignés par les docteurs indigènes à l'hôpital de Lappa, succursale de l'hôpital chinois de Macao pour les maladies infectieuses ou suspectes. En un mot, on fit tout ce qu'il était possible de faire pour enrayer la contagion dans la ville.

Cela n'empêcha pas que le 2 avril, l'hôpital de Lappa avait déjà reçu quatre pestiférés, provenant, le premier, de l'île même (Lappa), un autre, de Hongkong, et les deux autres, de Macao; ces deux derniers étaient des habitants de la ruelle de Papaya, une ruelle comme beaucoup d'autres, sans lumière, sans air et fort malpropre.

Petit à petit l'endémie fit son œuvre. Le 7 avril, la ruelle de Papaya avait à elle seule fourni quatre cas de peste bubonique. On en fit déloger les habitants, et on en boucha l'entrée après désinfection systématique des habitations.

Pendant qu'à la ville on enregistrait ces cas de peste—d'ailleurs assez rares,—voyons ce qui se passait au couvent des Sœurs de Charité.

Le matin du 11 avril, une enfant de la salle d'asile, âgée de 16 ans, assez robuste, malgré son tempérament lymphatique, accusait les premiers symptômes d'une méningite aiguë: température 40°, pouls accéléré et fort, vomissements fréquents, langue sèche et chargée, conjonctives injectées, délire, semi-coma. Après application de dérivatifs locaux et internes, la température tomba à 39° et la malade éprouva un soulagement assez sensible, qui lui permit de parler et de prendre quelques aliments.

Le matin même, trois autres enfants furent reçues à l'infirmerie, âgées l'une de 12, les deux autres de 4 ans, toutes trois prises de fièvre et de céphalalgie, avec enduit blanc sale sur la langue, mais sans perturbation appréciable du côté des voies digestives.

Ce même jour, un commencement de fluctuation se manifesta dans le bubon crural de la Sœur ANGÉLINE; je résolus de l'ouvrir, en prenant toutes les précautions d'usage. Il y eut, contre mon attente, beaucoup de pus, au grand soulagement de la malade chez laquelle la douleur et la gêne locales disparurent presque totalement.

Le 13, l'état de la malade de méningite empira, tous les symptômes s'aggravèrent, un semi-coma et du délire adynamique suivirent.

L'infirmerie recevait ce même jour une autre enfant d'asile âgée de 15 ans, avec symptômes de méningite aiguë, symptômes suivis de mort dans un délai de six heures. De plus, on apporta également une servante âgée de 40 ans qui accusait une température assez élevée, mais sans symptômes précis.

La situation devenait grave. La méningite est, sans doute, la complication la plus fréquente et la plus terrible de la peste bubonique; c'est elle qui joue le principal rôle dans la mortalité due à la forme épidémique de la maladie. Deux cas de méningite dans le même établissement où s'était déjà manifesté un cas bien reconnu de peste, outre deux autres cas de méningite enregistrés dans la même semaine au bureau de statistique nécrologique de la ville, c'était plus qu'il n'en fallait pour nous placer sur nos gardes.

Les autorités de Macao, dès qu'elles eurent connaissance de ces faits, prirent des mesures spéciales pour localiser et isoler l'épidémie désormais reconnue. Il fut décidé—

1°. Que les Sœurs, avec tous les enfants non chinois, et les enfants chinois dont le dortoir n'avait pas encore fourni un seul cas de peste, quitteraient la Sainte-Enfance pour aller s'installer à l'Île Verte dans le port intérieur.

2°. Que, au couvent, il ne resterait que les malades, les Sœurs employées à l'infirmerie, la Supérieure qui ne voulut pas quitter son poste d'honneur, la Sœur convalescente qui avait constitué le premier cas de peste à l'établissement, et les enfants chinois occupant les dortoirs déjà frappés par l'épidémie.

3°. Que l'on ferait des désinfections locales un peu partout.

4°. Qu'il était défendu de recevoir à la Sainte-Enfance des enfants malades dont la température serait au-dessus de la normale: ces enfants devaient être de suite envoyées à l'hôpital de Lappa, où l'on soignait les pestiférés qui voulaient bien s'accommoder du système indigène de traitement.

5°. Que les enfants décédées au couvent seraient inhumées dans le cimetière des pestiférés.

Le 14, on enregistrait le décès de la malade frappée de méningite le 11; et peu après, ceux des deux enfants qui étaient tombées malades le 12. Avant la mort, des bubons diffus à l'aine gauche s'étaient manifestés chez elles. Le même jour, deux autres enfants atteintes de fièvre, type typhoïde, entrèrent à l'infirmerie.

Ce ne fut que le 15 qu'on pût installer les enfants d'asile à l'Île Verte. Là, tout le monde resta indemne, pas un seul cas ne s'y manifesta jusqu'à la fin de l'épidémie. Il est donc fort probable que si l'on avait envoyé à l'Île Verte tous les enfants jusque-là épargnées par la peste, la mortalité se serait arrêtée aux cas signalés plus haut. Mais, d'un autre côté, il est permis de croire que s'il y avait en un cas d'incubé—et il y en eut plusieurs, comme on peut constater ce même jour et les jours suivants—car heureusement reconnus à temps,—la maladie y aurait été transportée, et l'Île Verte serait devenue un nouveau foyer de peste bubonique.

Le jour même du transfert, une jeune fille de 16 ans, parmi celles qu'on avait gardées au couvent, fut attaquée d'une fièvre typhoïde qui la tua en 24 heures, sans le moindre symptôme de peste. Presqu'en même temps survint le décès de la servante frappée le 13.

Le 16, outre la malade morte le 15, une autre qui avait été reçue à l'infirmerie le 12 et chez laquelle des bubons diffus s'étaient manifestés des deux côtés du cou, succomba. Ce jour-là, il n'entra pas de nouvelles malades à l'infirmerie, ce qui me donna l'espoir de voir l'épidémie commencer à perdre de sa virulence et céder devant les désinfections rigoureuses et autres mesures prises sur place.

Malheureusement, l'illusion fut de courte durée: dès le lendemain matin, deux autres enfants, l'une de 6 ans, l'autre de 15 ans, étaient frappées à leur tour.

Il n'était plus possible de rester les bras croisés devant l'ennemie impitoyable qui chaque jour faisait sa moisson de nouvelles victimes. Le couvent était devenu un terrible foyer de peste bubonique; il fallait d'urgence enlever de ce milieu contaminé et les enfants malades vouées à une mort certaine, et les enfants saines, lesquelles autrement semblaient fatalement condamnées à devenir aussi victimes.

C'est ce qui fut fait. Par ordre du Gouvernement de la colonie, on construisit des baraques, bien aérées, baignées de lumière naturelle, près la route de Cacilhas, dans un lieu élevé et exposé aux vents dominants de l'est et du sud. On établit également au sommet de la colline de Macau-siac une grande caserne faite de bambous et frondes de palmier pour l'admission des enfants jusqu'alors épargnées par la maladie, et qu'il était prudent de placer en observation sous la garde de deux Sœurs infirmières. Malgré sa simplicité, la construction de ces baraques prit encore du temps, et ce ne fut que pendant la nuit du 22 que le transfert des enfants non malades put être opéré; celui des malades et des convalescentes n'ayant lieu que pendant la nuit du 25.

Le résultat de ce regrettable mais inévitable retard fut qu'on eut trois nouvelles malades le 18, trois le 20 et une le 22; il y eut, en outre, un décès le 19, deux le 20 et un le 22.

Pendant qu'à la Sainte-Enfance la peste sévissait sous sa forme grave, à la ville on enregistrait, par-ci, par-là, des cas sporadiques de peste, presque tous dans les étroites habitations des ruelles et autres foyers latents de l'épidémie de 1895.

Circonstance curieuse: ni au couvent des Sœurs, ni à la ville, ni aux environs, l'endémie ne fut précédée, accompagnée ou suivie de peste chez les rats de Macao, bien qu'en 1895 ils se fussent montrés tout aussi propres à l'infection que les rats de Pakhoi, Canton, Hongkong, Amoy et Bombay.

L'installation des enfants d'asile à l'hôpital-baraque de Cacilhas se trouva être un remède aussi efficace que simple. Une seule malade entra dès lors à l'infirmerie, une enfant de la baraque de D. Maria, où logeaient les enfants placées en observation, mais qui toutes avaient quitté le couvent dans un apparent état de santé parfaite. Ce fut le seul cas d'incubation constaté parmi les enfants recueillis à D. Maria. Quatre jours après le transfert, cette enfant fut tout à coup prise de fièvre intense, accompagnée de vomissements et de céphalalgie. Transportée à l'infirmerie, elle y succomba au bout de six heures. Un peu avant la mort, des bubons diffus se manifestèrent de chaque côté de la vulve.

Quant aux 10 malades et convalescentes transportées du couvent à l'hôpital-baraque, une seule succomba, mais cela après 18 jours de résistance, malgré les graves symptômes des premiers jours, cinq bubons cruraux, cervicaux et axillaires, et infection purulente qui se

déclara vers le dixième jour et à laquelle, à la rigueur, on pourrait attribuer la terminaison fatale. En somme, entre le premier symptôme de peste bubonique chez la Sœur ANGÉLINE et la destruction par le feu dès qu'il fut devenu inutile de l'hôpital-baraque de Cacilhas, 22 pestiférées y reçurent mes soins, dont neuf furent sauvées, soit 40 pour cent.

Dans la ville et ses environs, l'endémie se maintint jusqu'au mois de juin. Pas un seul cas ne fut découvert le long de la Praia Grande, fait d'ailleurs observé déjà pendant l'épidémie de 1895, et dont, à mon avis, il faut attribuer la cause à la profusion de lumière et de grand air qui règne à cet endroit.

J'ose à peine qualifier d'épidémie une maladie qui a produit si peu de victimes dans une ville de 75,000 âmes, surtout si je compare la mortalité de la peste pendant cette année-là et celle de 1895,* mais elle a bien failli le devenir; et si on n'avait pris le parti de faire déguerpir les enfants d'asile et d'isoler en même temps les malades, le couvent serait devenu un foyer terrible de mortalité, d'où la peste sous sa forme grave n'aurait pas manqué d'envahir la ville.

En fin de compte, mes observations ne sont que la confirmation des faits observés à Hongkong en 1894 et à Macao en 1895. Dans la colonie anglaise la peste avait éclaté aussi au printemps. On y prit d'abord des mesures assez violentes—on était en présence de l'inconnu, on peut le dire: on remua beaucoup trop les ordures accumulées pendant un demi-siècle par la population indigène, on alla même jusqu'à défendre le rapatriement des pestiférés, par crainte qu'ils n'implantassent l'infection pour toujours dans les environs de Hongkong. En un mot, on essaya d'étouffer la peste sur place. On n'y réussit pas, malheureusement. L'épidémie ne quitta Hongkong que quand bon lui sembla et cela ne fut qu'en septembre. Et dès lors, chaque année, la peste visite régulièrement la colonie anglaise, sans qu'on ait encore trouvé moyen de s'en protéger. Et ce qui me semble certain, elle attaque tout aussi bien les résidents européens que la population indigène.

À Macao, l'épidémie n'apparut qu'en 1895; mais on eut trop de confiance dans les conditions telluriques et climatériques de la ville, restée indemne l'année précédente. Comme à Hongkong, la peste s'y montra sous sa forme grave.

Pendant tout le mois d'avril et jusqu'au milieu de mai, la mortalité augmenta d'une façon terrifiante. Ce fut alors qu'on eut l'idée d'envoyer les pestiférés hors de Macao dans un hôpital-baraque, bâti sur la rivière, près de la rive droite, en face du poste douanier de Sikkock.

L'endroit était bien aéré et le soleil frappait pendant toute la journée des ses rayons l'hôpital provisoire.

* 1897.	MORTALITÉ DANS LA VILLE ET SES ENVIRONS.	CHEZ LES SŒURS.	À L'HÔPITAL DE LAPPA.	TOTAL.
Avril	25	12	29	66
Mai	27	1	105	133
Juin	10	...	42	52
TOTAL	62	13	176	251

Dans la ville, on mit de côté toutes les mesures prises jusqu'alors à la façon anglaise; on ne remua plus les ordures, on se contenta de les désinfecter; on envoya les malades chrétiens à l'hôpital-baraque de Guïa et les païens à celui de Lappa; et après cette réception, la maladie jugea convenable de quitter Macao à la fin du mois de juin, bien plus tôt qu'elle ne l'avait fait l'année précédente à Hongkong. La mortalité journalière qui, de 10 individus pendant la dernière semaine de mars, était montée à 37 pendant la dernière semaine d'avril, et qui se maintint à ce chiffre jusqu'à l'avant-dernière semaine de mai, se mit à décroître dès qu'on eût installé l'hôpital-baraque sur l'eau, et donna les chiffres de 24, 22, 17, 14, 13, 11 pour les semaines qui suivirent. Dès la première semaine de juillet, on n'enregistrait déjà plus qu'une mortalité générale de sept individus par jour.

Si ces faits ne prouvent pas d'une façon concluante que le bacille Yersin n'aime pas qu'on le dérange, il n'y a pas moyen de le prouver.

On se figurera combien je tenais à profiter de l'occasion pour arriver à me faire une opinion personnelle sur l'efficacité du sérum Yersin dans le traitement curatif de la peste bubonique.

En juillet 1896, l'éminent bactériologiste français, se trouvant de passage à Macao, de retour de Nhatrang, je l'avais prié de m'envoyer une certaine quantité de son sérum antipesteux, qui venait de réussir si merveilleusement à Canton et à Amoy. Le Dr. YERSIN voulut bien accueillir ma demande, et y eut certainement donné suite s'il n'avait été appelé subitement à Paris, et de là envoyé dans l'Inde pour y faire des expériences sur le traitement de la peste.

En février, j'écrivis pour rappeler au savant docteur sa promesse, mais ma lettre ne dut pas lui parvenir, car il n'y fit pas réponse.

Mais, le 22 avril suivant, lorsque je venais de faire justement déménager les pestiférés du couvent des Sœurs de Charité, je reçus, par l'intermédiaire de M. le Consul de France à Hongkong, quatre tubes de sérum antipesteux, mais avec la réserve qu'il ne devait être employé que sur des malades européens. La dose envoyée, 40$^{c.c.}$, était précisément celle qu'il fallait pour un seul cas, un peu grave; et, d'un autre côté, défense m'était faite d'expérimenter sur des indigènes, les seuls malades que j'eusse sous la main, puisque la Sœur ANGÉLINE était depuis longtemps entrée franchement en voie de convalescence.

Force me fut donc de chercher ailleurs du sérum, comme aussi une seringue Roux, pour les injections.

Grâce à la bienveillance de M. LE ROUX, Consul de France à Hongkong, de M. FLAYELLE, Consul de France, et de M. CRESPO, Consul de Portugal, à Canton; et, grâce aussi à Mgr. CHAUSSE, l'évêque français de cette dernière ville, je pus enfin obtenir la seringue Roux et 26 tubes de sérum préparé à Nhatrang.

Mais alors il me manquait des malades. Le changement de résidence avait déterminé chez mes malades une telle différence dans la marche du procès morbide, que je n'osais plus intervenir avec le sérum; dont les résultats seraient d'ailleurs restés douteux du moment que les malades étaient déjà entrés en voie de guérison.

Pour ce qui concerne l'hôpital chinois de Lappa, il m'était également tout à fait inutile de songer à y établir le traitement par injections de sérum. L'indigène n'accepte pas volontiers la médecine européenne; et je me souciais peu de risquer d'affermir leur scepticisme par un échec possible dans les expériences. Il me fallait quelqu'un qui voulût bien avoir recours à ce système de traitement, sur la foi des merveilleux résultats obtenus l'année dernière à Canton et surtout à Amoy.

Je n'avais pas l'embarras du choix. Il me fallait tout simplement, ce que je cherchai à faire, convaincre les directeurs de l'hôpital chinois de Macao de l'avantage qu'il y aurait à ce que leurs docteurs apprissent eux-mêmes à appliquer le nouveau remède, dont on disait tant de bien. Après maintes objections, je parvins à obtenir qu'on construisît une baraque dans l'enclos même de l'hôpital, avec promesse qu'il me serait permis d'y entreprendre des expériences sur des sujets que choisirait le médecin indigène-en-chef parmi les malades recueillis à Lappa.

J'étais arrivé à mes fins: tout était prêt, la baraque, les directeurs chinois et même les premiers malades, lorsque malheureusement je reçus du Vice-Consul de France à Macao, M. BASTO, une lettre dans laquelle de la part du Dr. YERSIN j'étais prié de ne pas utiliser le sérum que je possédais, parce que ce sérum ayant été préparé il y avait quelques mois à Nhatrang, et probablement trop vieux déjà, on risquait de manquer l'expérience. L'illustre bactériologiste promettait du reste de m'envoyer sous peu de jours du sérum frais, préparé à Paris.

Il n'y avait plus qu'à ajourner mes expériences. Et je m'en félicite à l'heure actuelle, car je viens de lire le rapport du Dr. MATIGNON sur la "Peste bubonique en Mongolie," et voilà ce qu'il y dit d'expériences analogues:—"Le sérum de YERSIN ne m'a donné aucun résultat. La seule action bien nette, que j'ai pu constater, a été un retard dans la survenue de la mort et un léger abaissement de la température. Chez un de mes malades, il se produisit pendant 12 heures une amélioration qui me fit momentanément espérer la guérison. Non-seulement la fièvre avait notablement diminué, mais un souffle râpeux, perçu au premier bruit de l'artère pulmonaire, avait disparu.

"Le sérum était trop vieux, et aussi, peut-être, n'aurais-je pas dû me contenter de faire des injections de 10 ou 20 centimètres cubes seulement. Mais, je ne disposais que de 17 flacons de 10 centimètres cubes. Ce sérum est le même que celui qui a été employé à Bombay, où il n'a pas donné les résultats remarquables qu'obtint, l'an passé, à Amoy, YERSIN avec le sérum préparé à Nhatrang (Annam)." (*Annales d'hygiène publique et de médecine légale*, 1898, No. 3, page 249.)

Dans une note, au bas de la même page, l'auteur ajoute:—

"J'ai employé du sérum venant de Paris, d'où il était parti au mois de mai et qui avait ensuite séjourné pendant deux mois à Canton. J'avais deux fois, en janvier et en avril, écrit à Nhatrang, d'abord, à l'Institut Pasteur de Paris ensuite, pour avoir du sérum. Mais il n'a jamais été répondu à ma demande. Les 17 tubes que j'ai eu en ma possession m'avaient obligeamment été envoyés par notre Consul à Canton."

Tels sont les résultats auxquels j'aurais dû m'attendre, si j'avais essayé le sérum dont je disposais. À coup sûr, il a mieux valu, à tous les points de vue, que cette expérience, qui fût restée incertaine, ait été ajournée.

Et à présent, voyons quelle a pu être la cause du développement de la peste, cette année-là, à Macao. Le premier cas qu'on a pu observer en ville a été celui de la Sœur ANGÉLINE. On ne pensait guère alors à la peste, dont on n'avait pas enregistré un seul décès depuis le mois de juin de l'année précédente.

La Sœur ANGÉLINE avait passé au mois de janvier en rade de Bombay, où la peste bubonique faisait déjà des ravages. Le paquebot qui la portait était arrivé à la fin de janvier à Hongkong, et, dès le lendemain, la Sœur ANGÉLINE débarquait à Macao, où elle continua à se porter à merveille jusqu'au 18 mars.

Serait-ce un cas ambulatoire, comme ceux qu'on a observés à Londres et qui ont fait tant de bruit? (*Ann. de Lgg.*, 1897, mai, page 419.) Mais, la Sœur ANGÉLINE venait d'Italie, n'était pas descendue à terre pendant toute la traversée et ne s'était arrêtée que quelques heures à Hongkong. Enfin, une fois à Macao, 46 jours s'écoulèrent sans qu'elle manifestât le moindre signe de maladie.

Étant donnés ces faits, étant donnés aussi la constitution robuste et le tempérament bien équilibré de la Sœur ANGÉLINE, m'est avis que la peste n'a pas, cette année-là, été importée de Bombay, ni même de Hongkong, où la malade ne fit que passer.

Le sol du couvent des Sœurs aurait-il donc été infecté dès l'année précédente? Il serait difficile de le démontrer, car c'est la première fois que la peste se manifestait au couvent, malgré la violence de l'épidémie en 1895, et malgré les soins déjà donnés aux pestiférés en 1896 par les Sœurs de Charité, toujours prêtes à prêcher d'exemple l'abnégation et le dévouement. D'ailleurs, les salles et dortoirs du couvent ont un cubage énorme et sont munis de fenêtres en telle profusion par où la lumière du soleil entre à flots, que les mesures d'hygiène toujours si minutieusement appliquées par les Sœurs sont faciles à prendre. Comment admettre, par conséquent, que le bacille ait choisi un tel milieu pour s'y installer, y demeurer latent et inoffensif, sans manifester une seule fois sa présence pendant près d'une année?

Il me semble plus raisonnable d'admettre l'hypothèse que le bacille, pendant l'épidémie de 1895, s'était logé dans le sol et les murailles des habitations chinoises de Patane, quartier séparé du couvent par une ruelle, comme toutes les autres, sans lumière et sans air, et dans laquelle l'épidémie de 1895 a installé pour toujours le bacille de la peste. Ce fut précisément ce quartier qui fournit le plus grand nombre de décès de peste pour l'année 1896, et il a été un des plus éprouvés même en 1897,—comme il le sera toujours sans doute dans l'avenir, si les conditions hygiéniques n'y sont pas radicalement changées quelque jour.

Or, il faut tenir compte du fait que dans la chambre occupée par la Sœur ANGÉLINE dès son arrivée au couvent, l'une des fenêtres donne sur le Patane.

C'était là, à cette fenêtre, que pendant les nuits calmes, la jeune Sœur, accoudée et songeuse, aimait sans doute à regarder la lune qui semblait marcher vers l'Italie; c'était là, qu'elle rêvait de l'air embaumé de son pays, si différent de cette atmosphère lourde et malsaine d'un quartier chinois, dont elle était forcée d'aspirer les émanations bien autrement embaumées.

Mais comment le bacille de la peste, caché dans les bouges de Patane, a-t-il pu préférer d'abord l'organisme sain et robuste de l'étrangère, arrivée d'hier, aux organismes chétifs et

malingres des enfants recueillies à la Sainte-Enfance, ou de ceux qui habitaient le couvent depuis longtemps, et parmi lesquels le bacille ne tarda pas à faire ample moisson de victimes?

Explique qui pourra. Je viens d'exposer les faits; qu'on en tire les conclusions.

Toutes les malades reçues à l'infirmerie du couvent étaient, au bout de quelques heures, ou mortes ou condamnées déjà par l'acuité des symptômes. Sur 20 malades admises du 11 au 21 avril, une seule est entrée en convalescence franche le cinquième jour; 11 ont été tuées sur place dans un délai de quatre heures à quatre jours; les autres ont été transportées, dans un état déjà fort grave, à l'hôpital-baraque de Cacilhas, où cependant une seule mourut; et, encore, il est douteux que ce fut bien la peste qui la tua.

Des enfants et Sœurs installées à l'Île Verte, pas une seule n'eut de céphalalgie ni de fièvre. Ce ne fut qu'au bout d'un mois de séjour qu'on commença à y contracter la fièvre paludéenne, toujours à l'état endémique dans cette localité.

Parmi les trois Sœurs et les 43 enfants logées dès le 22 à la baraque d'observation, une seule enfant présenta des symptômes d'infection, quatre jours après. C'était évidemment un cas incubé que le changement des conditions de milieu n'a pu faire avorter. Transportée tout de suite à l'hôpital-baraque, elle y succomba en deux jours. Toutes les autres ont quitté en juin la baraque de D. Maria, sans le moindre indice d'avoir vécu pendant quelques jours dans ce foyer de peste bubonique qu'avait été le couvent des Sœurs italiennes.

Et maintenant que j'ai exposé les faits, voyons les conclusions qu'on en peut déduire.

Tout d'abord, l'influence d'oxygène sur la marche de la maladie me semble nettement démontrée. Tous les rapports qui, dernièrement, se sont occupés de la pathogénie de la peste tendent à démontrer que les conditions les plus favorables au développement de l'épidémie sont: l'insuffisance d'aération, le manque de lumière naturelle, l'accumulation d'individus dans un milieu restreint, la malpropreté.

N'est-ce pas ce qu'on pourrait exprimer, en résumant, par la formule suivante: tout ce qui aide à la désoxygénation de l'atmosphère, aide au développement de la peste bubonique?

En outre, il y a encore à considérer que le poison le plus sûr pour les bacilles de toute espèce est par-dessus tout l'oxygène. Le bacille Yersin, par exemple, résiste à une solution d'acide carbolique à 1 pour cent, et cette résistance va en décroissant jusqu'à 5 pour cent de solution, dans laquelle le bacille périt immédiatement. Mais on sait aussi que dans une atmosphère d'oxygène pur, il n'y a pas de bacilles qui ne périssent instantanément. Donc, dans un milieu bien oxygéné la maladie devra être enrayée dans sa marche fatale, si du moins il est temps encore d'empêcher les complications si fréquentes et si redoutables du procès morbide.

Voilà ce que l'expérience a confirmé pendant les épidémies de 1895 et 1897 à Macao et les environs. Voici les faits:—

1°. Toute cette partie de la ville qui s'étend de la colline de la Penha, par la Praia Grande à la villa Branca, y compris l'hôpital militaire et qui est bien exposée aux vents dominants de la mousson du sud-ouest, n'a pas jusqu'ici enregistré un seul cas de peste bubonique. On ne saurait attribuer cela au simple

fait que toutes ces habitations sont la résidence d'européens et de quelques eurasiens et chinois, vivant dans des conditions de milieu propre, soigné et peu favorable au développement de la maladie. Non. D'abord, à Hongkong et à Bombay, les quartiers européens n'ont été nullement épargnés par la peste; et puis, le milieu intérieur peut avoir—doit avoir, disons—une influence très-prononcée sur l'issue du procès morbide; mais on comprend aisément qu'il ne suffise pas à empêcher l'absorption du bacille. Il y a dans les habitations de la Praia Grande une foule de *coolies* employés au service des résidents: or, pas un seul de ces *coolies* n'a été frappé de peste.

2°. Ce sont les ruelles en cul-de-sac qui sont toujours pour la peste les foyers de prédilection. Visitez le Patane, qui est depuis 1895 le centre reconnu de l'épidémie, vous n'y trouverez que des ruelles où l'on sent l'oppression et la gêne, faute d'air respirable. Allez au quartier misérable de S. Paulo, du côté nord: c'est sale, c'est infect, ça sent partout l'égout; mais, l'épidémie n'y fait jamais grand ravage. C'est que là, il y a le grand air, et que la malpropreté ne parvient pas, par elle seule, à désoxygéner l'atmosphère renouvelée à chaque instant. Parcourez le quartier chinois de la ville, le Bazar, comme on l'appelle: vous y trouvez, pendant toute l'année, une propreté relative,—les halles exceptées, bien entendu; et pourtant, la peste y fait chaque année des ravages plus ou moins sensibles. C'est qu'il faut aller dans les ruelles, et vous n'y allez pas, car vous ignorez—et votre guide peut-être l'ignore lui-même—que la porte de telle et telle maison bien proprette, à juger du moins d'après la façade, c'est justement l'entrée d'une ruelle où l'air et le soleil n'ont jamais pénétré et dont le milieu, dans lequel grouillent quelques dizaines—parfois quelques centaines—de misérables, pourrait être coupé au couteau. C'est là le quartier d'hiver de la peste; c'est là qu'elle attend le printemps prochain pour faire sa réapparition périodique.

3°. Le couvent des Sœurs italiennes est un vaste édifice, avec larges fenêtres, aux grands dortoirs, où la plus stricte propreté s'affirme partout, grâce aux soins minutieux de ces dames, si attentives toujours à l'hygiène de l'établissement. Eh bien, on y étouffe, quand même. Le soleil y entre à flots; le cubage des dortoirs et des écoles est énorme pour chaque enfant; mais, du côté nord du couvent est située la grotte de Camoëns et son jardin, aux arbres touffus et séculaires; à l'ouest, on est sous le couvert des montagnes de Lappa, qui de ce côté rarifient le vent; au sud, s'élève la colline de S. Paulo; à l'est, le jardin du Patane embaume l'atmosphère d'une odeur spéciale et caractéristique. Peut-on faire autrement qu'étouffer, au couvent? Mais—dira-t-on—en 1895 le couvent a échappé à la peste. Eh bien! C'est justement ce que je trouve étonnant et merveilleux. Mais, enfin, on pourrait dire que peut-être, en 1895, on était aux aguets, qu'on fermait toutes les fenêtres du côté du Patane, qu'on craignait l'épidémie qui sévissait un peu partout; tandis qu'en 1897, on ne songeait plus à la peste, et la Sœur ANGÉLINE, de son petit chez-soi,

la fenêtre grande ouverte, contemplait rêveuse le Patane, au clair de la lune. Tant pis, si l'explication ne suffit pas pour tout le monde; mais elle doit suffire pour ceux qui savent que Macao a échappé à la peste en 1894 et a été terriblement éprouvé en 1895. La crainte est quelquefois salutaire.

4°. La menaçante épidémie qui éclata au couvent des Sœurs a frappé de mort tous ceux qui ont assisté à l'infirmerie du couvent au procès morbide, la Sœur ANGÉLINE exceptée. Mais après que les malades eurent été transportées à l'hôpital-baraque de Cacilhas, deux décès seulement survinrent sur 11 malades. Et encore, comme je l'ai déjà dit, une de ces malades n'a pas vraiment succombé à la peste. Elle avait en d'abord la variole confluente, puis le choléra en 1888, puis la peste en 1895, et enfin la peste encore en 1897. C'était une prédestinée; son sang n'était plus un fluide nourrissant, c'était plutôt du pus en décomposition. On a pu compter sur son corps agonisant jusqu'à 17 foyers purulents. Ce cas, on ne devrait pas le compter. Il reste donc une mortalité de 10 pour cent pour les pestiférés soignés au grand air. Je crois, que cela suffit à justifier l'opinion que l'oxygène est pour le moment l'arme de combat la plus sûre contre la peste bubonique, et comme prophylaxie et comme traitement curatif.

L'avenir le dira.

Il est à regretter que je n'aie pu recueillir des observations sur le traitement curatif de la peste par le sérum Yersin. J'espère pourtant que, dans l'année courante, vu que nous avons déjà, malheureusement, la peste à Macao et Lappa, j'aurai l'occasion de me faire une conviction à cèt égard, basée sur des observations personnelles. Il m'est avis que le sérum antipesteux, appliqué en temps utile et dans des conditions rationnelles, doit toujours réussir.

Ce qui n'empêche pas que j'ai foi aussi dans l'influence favorable de l'oxygène sur la marche du procès morbide pesteux. Peut-être même les inhalations d'oxygène, peu ou légèrement corrigé par l'azote, seraient un remède efficace pour détruire les toxines de la peste. C'est une expérience à faire, du moins pour les cas où le sérum ne peut s'obtenir de suite dans les conditions désirables.

Qui sait si avant la fin du siècle, avant surtout que la peste n'envahisse l'Europe, déjà épouvantée, craintive, à l'approche du terrible fléau, on ne pourra crier ferme: "La peste est une maladie tout aussi guérissable que la plupart des maladies qui frappent l'humanité!"

Il ne faut pas attendre longtemps. Il y a peut-être des millions de victimes à épargner.

NOTE

SUR

LES ESSAIS DU SÉRUM YERSIN DANS LE TRAITEMENT DE LA PESTE BUBONIQUE.

PAR

Le Docteur J. GOMES DA SILVA.

L'ÉPIDÉMIE de peste à Macao cette année (1898) n'a débuté que dans la deuxième semaine d'avril. La mortalité dans la ville et ses environs est considérée comme normale entre 6 et 10 décès par jour: or, dans la troisième semaine de mars, elle s'éleva à 11 décès, ce qui fit craindre un moment que l'épidémie commençait; mais, dès la semaine suivante, la moyenne retomba à 7 décès.

L'apparition de l'endémie à Hongkong, dès les premiers jours de janvier, tenait depuis lors en éveil l'attention des autorités de Macao. Aussi, dès que les premiers cas sporadiques de peste se manifestèrent dans la colonie, accentués d'un léger surcroît dans la mortalité générale, ordre fut-il donné à l'hôpital chinois et à l'asile de la Sainte-Enfance d'expédier de suite à l'hôpital de Lappa tout malade qui tenterait d'être admis dans ces établissements, s'il présentait quelques symptômes suspects, tels que fièvre, bubon, etc. En même temps, l'inspection médicale fut de suite établie pour les passagers arrivant de Hongkong, et, quelques jours plus tard, pour ceux venant de Canton, de Kongmoon et autres ports voisins déjà infectés.

Malgré toutes les précautions prises, l'épidémie fut néanmoins franchement déclarée dès la deuxième semaine d'avril. Elle choisit pour foyers d'irradiation les halles municipales de S. Domingos, le Patane, et les quartiers de S. Lazaro et de Thomaz Rosa.

Tant qu'elle ne fit de victimes que parmi la population chinoise du Bazar et du Patane, l'hôpital indigène de Lappa suffit à les recevoir toutes. Le traitement indigène était, du reste, le seul que voulussent bien accepter ces premières victimes; aussi me fut-il impossible de songer alors à entreprendre des observations cliniques: les docteurs chinois ne me l'eussent pas permis sur leur terrain. Mais bientôt le fléau envahit le quartier S. Lazaro, commença à décimer les eurasiens et les indigènes catholiques, et dès lors d'autres dispositions et plus d'espace devinrent nécessaires. On commença par établir sans retard, comme en 1895 et 1897, un hôpital provisoire pour le traitement des pestiférés par les méthodes européennes. L'endroit choisi fut, cette fois-ci, le petit plateau du versant oriental de la colline de D. Maria. Comme exposition et situation, on ne pouvait souhaiter mieux: au nord, le bassin de Cathay; à l'est, l'amplitude de la mer jusqu'à l'île de Lantao; au sud, la petite baie de Cacilhas; à l'ouest, un bois de sapins; air pur et abondant, lumière naturelle à flots, brise constante tempérant la chaleur solaire; de plus, près de là et dominant le plateau, le petit fort de D. Maria, qui pouvait servir de refuge

aux malades en cas de typhon; excellente eau de source dans la citerne du fort; enfin, facilité de communications avec la ville, dont l'hôpital, pourtant, se trouvait naturellement isolé par une série de collines qui s'étendent de la baie de Cacilhas à la pointe de S. Francisco. L'ensemble de toutes ces conditions faisait du petit plateau de D. Maria l'endroit le mieux choisi pour l'installation de l'hôpital provisoire.

Malheureusement, les eurasiens, pas plus que les chinois catholiques, n'étaient encore convaincus de l'avantage du traitement de la peste par le milieu oxygéné, et préféraient se laisser mourir chez eux plutôt que d'entrer à l'hôpital. On peut en avoir la preuve dans le tableau ci-joint du mouvement d'entrée et de sortie des malades de l'hôpital-baraque de D. Maria. Sur 50 malades reçus, 24 étaient agonisants ou près de l'agonie!

Espérons que, dorénavant, les résultats de cette année étant bien connus, les pestiférés n'auront plus tant de scrupules à se faire recevoir en temps utile dans les hôpitaux établis pour les secourir.

Si l'on retire du chiffre des 26 malades soignés à l'hôpital de D. Maria, ceux qui, n'étant pas des pestiférés, n'y sont allés que pour y profiter du milieu oxygéné, le nombre des pestiférés se réduit tout juste à une vingtaine, distribués comme suit:—

Hôpital provisoire de D. Maria.

Forme de la Peste.	Malades.		
	Reçus.	Guéris.	Décédés.
Grave	7	3	4
Typique	11	10	1
Avortée	2	2	...
Total	20	15	5

Ce qui représente une mortalité de 25 pour cent pour le traitement de la peste bubonique par le milieu oxygéné.

Vers le commencement de mai, au moment où l'épidémie marchait rapidement vers son apogée, qu'elle atteignit le 17 du même mois, M. Piry, le directeur de la Douane Impériale de Lappa, m'avisa qu'il venait de recevoir, et tenait à ma disposition, une soixantaine de flacons de sérum antipesteux préparés à Paris et conservés, jusqu'à l'arrivée, dans les conditions prescrites par l'éminent bactériologiste français.

On se figure aisément avec quel plaisir je reçus cette nouvelle. J'allais enfin avoir l'occasion de me faire une opinion personnelle sur la valeur réelle du célèbre spécifique.

Nous étions en pleine épidémie, les hôpitaux de Lappa et de D. Maria regorgeaient de malades. Le sérum antipesteux ne pouvait être placé à ma portée dans des conditions et en temps plus opportuns.

Ma première idée fut d'appliquer de suite le remède dans le traitement des malades à l'hôpital de D. Maria. Mais une objection sérieuse s'éleva aussitôt dans mon esprit. N'y avais-je

pas obtenu moi-même des résultats assez satisfaisants au moyen du simple traitement par le milieu oxygéné? Les expériences au sérum dans ces mêmes conditions, pouvaient-elles être conclusives? Si les malades inoculés étaient sauvés, pourrait-on bien et sans conteste en attribuer le fait à l'action du sérum, dès lors qu'auparavant on l'attribuait au simple traitement symptômatique? Et si les malades venaient à succomber, n'était-ce pas s'exposer à fournir de puissants arguments aux détracteurs passionnés du sérum antipesteux?

Évidemment, il fallait agir dans un milieu n'offrant aucune prise à ces critiques, en même temps que sur des malades qui ne voulaient pas se fier d'eux-mêmes au traitement de l'hôpital de D. Maria. Mais, où trouver ces malades? Dans la clinique privée? Impossible, car il est interdit aux médecins de Macao de faire de la clinique de chambre chez les pestiférés. Il ne restait que l'hôpital de Lappa. Là, le milieu était irréprochable, attendu que les conditions locales ne pouvaient être pis; si le traitement manquait, on ne pourrait peut-être pas en tirer des conclusions positives; mais, du moins, s'il réussissait, les conclusions en sa faveur seraient légitimes, puisque la mortalité dans cet établissement s'élevait à quelque chose comme 90 pour cent. Ces objections étant présentées à M. PIRY, il voulut bien en reconnaître toute la justesse, et lui d'un côté, moi de l'autre, nous cherchâmes à obtenir d'abord qu'une baraque fût spécialement affectée aux expériences et détachée de l'hôpital de Lappa, et qu'ensuite des pestiférés prêts à accepter le traitement au sérum fussent confiés à mes soins. Ces préliminaires prirent un temps considérable. D'abord, il fut reconnu nécessaire d'obtenir—et ce ne fut qu'à grand'peine,—l'adjonction d'une baraque séparée, aux frais de l'hôpital; puis, il y eut à surmonter la répugnance des malades à se soumettre aux inoculations; enfin, et surtout, il fallut vaincre l'opposition systématique des docteurs indigènes à l'ingérence européenne dans le régime de l'hôpital. Ces difficultés surmontées il en surgit de nouvelles: comment soustraire les malades inoculés à l'immixtion gênante des docteurs chinois? Puis, que faire pour empêcher que les malades guéris de la peste bubonique ne tombassent victimes de cette terrible complication, la pourriture d'hôpital, si particulièrement à craindre dans un pareil milieu?

Heureusement, il y avait quelqu'un, outre M. PIRY et moi, qui avait daigné s'intéresser aux expériences: c'était Son Excellence M. le Gouverneur GALHARDO, dont l'autorité triompha peu à peu de tous les obstacles.

Tout céda, même l'opposition des directeurs de l'hôpital, devant la menace que, dorénavant, tous les cas de peste survenus parmi la population chinoise de Macao seraient soignés à l'hôpital chinois de la ville, sous la surveillance exclusive des docteurs européens. Aussitôt, on se hâta de faire élever la baraque demandée à côté de l'hôpital, et les docteurs chinois promirent de me fournir tous les malades requis pour les expériences.

Mais, malgré tout, l'opposition chercha par toutes sortes de subterfuges à gagner du temps, et ce ne fut qu'à la fin de mai, lorsque l'épidémie commençait déjà à décliner, que la baraque aux expériences me fut livrée.

Dans l'après-midi du 30 mai, assisté de mes collègues, les docteurs RODRIGUÈS et GONÇALVÈS, de la Marine Royale, et MARQUÈS, médecin civil, je commençai les expériences.

Pour ce premier début, je n'avais pris avec moi que 12 flacons de $10^{c.c.}$ de sérum, et j'avais demandé qu'on m'apportât dans la baraque 10 malades, dans l'intention d'en inoculer la moitié,

réservant l'autre moitié comme témoins d'expérience. Mais on ne me livra que neuf malades dont l'état respectif était comme suit:—

No. 1.—Homme, 27 ans: température 40°.1; pouls 120; bubon cervical gauche depuis le 27; délire ataxique.

No. 2.—Homme, 23 ans: température 39°.5; pouls 104; bubon axillaire gauche depuis le 26; adynamie.

No. 3.—Homme, 20 ans: température 39°.7; pouls 112; bubon axillaire gauche depuis le 25; adynamie.

No. 4.—Homme, 60 ans: température 40°; pouls filiforme; pas de bubon apparent; délire adynamique.

No. 5.—Femme, 65 ans: température 39°.1; pouls 104; pas de bubon apparent; adynamie.

No. 6.—Femme, 44 ans: température 39°.9; pouls 120; bubon crural gauche; adynamie.

No. 7.—Femme, 20 ans: température 39°.9; pouls 136; bubon inguinal droit, diffus, depuis le 28; délire adynamique.

No. 8.—Femme, 14 ans: température 40°.1; pouls filiforme; bubon rétro-auriculaire gauche depuis le 29; délire ataxique.

No. 9.—Femme, 55 ans: température 39°.6; pouls 96; bubon crural à droite et à gauche depuis le 25; adynamie.

Comme on le voit, on ne pouvait faire pire choix de sujets, bien qu'il y eût ce jour-là 101 pestiférés en traitement à l'hôpital. J'avais demandé 10 malades présentant la forme typique, c'est-à-dire, ayant la fièvre et des bubons assez récents pour que le procès morbide ne se fût pas encore compliqué de lésions organiques fatales: or, on me donnait neuf malades, dont deux n'avaient pas de bubons et dont les sept autres présentaient la forme grave et compliquée de la maladie!

Dès que je fis part de ces objections au directeur de clinique à l'hôpital, il me répondit effrontément: "C'est exprès: c'est là que nous voulons juger du miracle de la guérison. Pour les autres cas, à quoi bon? Nous nous y connaissons nous-mêmes passablement."

Oui, assurément, ils s'y connaissaient! ce qui n'empêcha pas que des 91 malades qui, ce jour-là, se trouvaient confiés à leurs soins, plus de 80 succombèrent dans le courant du mois de juin!

Décidé à compléter le nombre des patients stipulé par moi et promis par les directeurs de l'hôpital, j'allai moi-même à l'infirmerie générale chercher un dixième malade, que, bon gré mal gré, on m'apporta à la baraque. L'état de ce dernier sujet était comme suit:—

No. 10.—Femme, 13 ans: température 39°; pouls 140; un bubon cervical droit depuis le 29, et un autre plus petit en arrière de l'oreille droite depuis le matin du 30; état général régulier.

Le nombre ainsi complété, je choisis pour l'expérience les Nos. 2, 3, 7, 8 et 10, qui tous reçurent $20^{c.c.}$ de sérum, sauf le No. 8, qui en reçut $30^{c.c.}$ Il me restait donc un flacon de $10^{c.c.}$; j'en inoculai le contenu au No. 1. Toutes les inoculations furent faites au flanc, ou sur

la ligne de la paracentèse abdominale; le liquide doucement poussé ne fit boule que chez les individus trop maigres, et seulement pour quelques minutes.

Le lendemain, lors de notre visite à l'hôpital, mes collègues et moi nous constatâmes les résultats suivants:—

No. 1.—Température à minuit, d'après le thermomètre maxima, 41°.5; à 3 heures du matin, délire ataxique; mort.

No. 2.—Avait bien dormi; bubon moins douloureux; température 39°.4 (descendue d'un dixième).

No. 3.—Commencement de délire adynamique; température 39°.9 (montée de 2 dixièmes).

No. 4 (non inoculé).—Mort pendant la nuit.

No. 5 (non inoculé).—Mort pendant la nuit.

No. 6 (non inoculé).—Mort pendant la nuit.

No. 7.—Avait dormi; délire plus tranquille et intermittent; bubon moins diffus, la malade tolérant mieux la pression du doigt; température 39°.1 (descendue de 8 dixièmes).

No. 8.—Même état, sauf le bubon légèrement diminué et la température tombée à 39°.9.

No. 9 (non inoculé).—Mort.

No. 10.—Température 38° (tombée de 1° depuis la veille); bubon cervical réduit de moitié; l'autre, en train de disparaître. La malade avait très bien dormi, et, en se réveillant le matin, avait demandé à manger.

Ce fut surtout ce dernier cas, des plus remarquables, qui m'encouragea à poursuivre les expériences, bien que les autres cas ne fussent pas moins frappants par les déductions que ces débuts autorisaient:—

1°. Tous les malades non inoculés avaient succombé pendant la nuit.

2°. Par contre, les malades inoculés étaient tous vivants, le No. 1 excepté, qui n'avait reçu qu'une injection de 10$^{c.c.}$, évidemment insuffisante à cette période avancée du procès morbide.

3°. Chez les malades 2, 7, 8 et 10, la température était descendue de quelques dixièmes de degrés au moins.

4°. Chez les malades 7, 8 et 10, les bubons avaient diminué de volume.

En présence de ces faits, et surtout des effets constatés sur le No. 10, je cherchai à augmenter le nombre des sujets, et j'allai moi-même les prendre à l'infirmerie de l'hôpital.

Mais, si les faits observés m'imposaient déjà une conviction, il en était de même aussi chez les docteurs chinois, pour qui l'effet du sérum n'était non moins frappant. Pour eux, la preuve de son efficacité était écrasante; et ils y voyaient déjà leur crédit détruit et leur clientèle dangereusement compromise. L'intérêt personnel, en Chine comme ailleurs, le cède rarement au sentiment de pure philanthropie: j'avais à peine passé le seuil de l'infirmerie, que l'œuvre de rancune était commencée et les malades catéchisés contre le sérum Yersin.

Le premier artifice auxquels ils eurent recours est des plus simples. Ils répandirent parmi leurs malades le bruit que tous ceux qui venaient de succomber à la baraque étaient des inoculés, et que, s'il y avait cinq survivants, c'est que nous n'avions heureusement opéré que sur la moitié des sujets offerts à nos expériences! Est-il besoin de venir en Chine pour voir en action l'arme de la calomnie!

Un autre stratagème qu'ils employèrent fut, cette nuit-là même, de placer leur dépôt de cadavres au pied d'un des côtés de la baraque, dont cette pourriture n'était separée que par une paroi de frondes de palmier. L'instinct leur disait que cette circonstance ne manquerait pas d'avoir quelque influence sur l'issue du procès morbide.

Ce ne fut que plus tard que je parvins à découvrir tout l'arsenal d'artifices dont disposaient contre nous ces chers confrères chinois. Ainsi, par exemple, les malades transférés à la baraque ne recevaient pour toute alimentation qu'un mince décocté de patate et continuaient à ingérer des médicaments chinois qui provoquaient chez eux des vomissements, de la diarrhée, une transpiration profuse et qui, en réalité, n'avaient pour résultat final que de les affaiblir. La baraque avait été bâtie au-dessus de la vase du fleuve, que, pendant quelques heures dans la journée, les eaux de marée recouvraient en partie. C'était là, juste au-dessous de notre baraque que l'on prit l'habitude, par une aimable prévenance, de venir jeter les déjections des malades et toute espèce d'ordures recueillies dans les cuisines et les infirmeries de l'hôpital.

Avant d'avoir connaissance de toutes ces machinations, j'eus à en éprouver les effets, et ceci commença dès le matin du 31 mai. D'une centaine de malades réfugiés à l'hôpital, je réussis à n'en trouver qu'un seul qui voulût bien se prêter aux injections. Ce malade prit son numéro d'ordre dans les conditions suivantes:—

No. 4.—Homme, 27 ans: température 39°.5; pouls 104; bubon cervical gauche et bubon crural gauche; pas de délire ni d'adynamie.

Je dus, pour le moment, me contenter de cet état de choses; mais j'eus recours à Son Excellence Monsieur le Gouverneur pour amener un changement radical et nécessaire. En conséquence, le 2 juin, la baraque était placée sous ma direction exclusive et l'on me reconnaissait le droit de choisir moi-même à l'infirmerie de l'hôpital les sujets dont j'avais besoin.

C'est alors qu'une difficulté d'un autre genre, cette fois insurmontable, se présenta. L'épidémie dans la ville et ses environs décroissait rapidement depuis le 17 mai, et les malades qui se trouvaient à l'hôpital de Lappa, au nombre de 102, étaient tous dans une période déjà avancée de la peste, apyrétiques, avec bubons suppurés, etc.; ou présentaient, comme unique symptôme, une température élevée; ou bien, encore, souffraient d'une complication quelconque qui n'avait plus aucun rapport avec la peste bubonique. Je ne trouvai donc que trois malades propres aux expériences, et je les inscrivis comme suit:—

No. 5.—Femme, 17 ans: température 41°.2; pouls 144; bubon à l'aine gauche depuis trois jours, très-douloureux; commencement de délire adynamique.

No. 9.—Femme, 50 ans: température 39°; pouls 104; bubon crural gauche depuis quatre jours; adynamie.

No. 11.—Homme, 8 ans: température 41°.5; pouls 140; bubon crural gauche depuis quatre jours; adynamie.

À partir de ce jour-là, pas un seul malade ne fut admis à l'hôpital sans examen préalable à la baraque, où l'on prit de suite ceux qui offraient la forme typique de la peste, caractérisée par les deux symptômes pathognomiques, fièvre et bubon.

Malgré ces dispositions, quatre malades seulement furent trouvés dans des conditions acceptables, et, encore, ces conditions laissaient à désirer:—

No. 6.—Femme, 43 ans: température 39°.2; pouls 120; bubon axillaire gauche et bubon crural droit; pas d'adynamie.

No. 12.—Homme, 30 ans: température 40°; pouls 104; bubon crural droit depuis deux jours; commencement de délire ataxique.

No. 13.—Homme, 23 ans: température 41°; pouls 140, presque filiforme; bubon diffus à l'aine droit depuis trois jours, très-douloureux; ulcère au talon droit, sur le tendon d'Achille; état général satisfaisant.

No. 14.—Homme, 23 ans: rachitique; température 39°.8; pouls 96, à peine perceptible; vomissements fréquents; bubon inguinal gauche depuis trois jours, diffus, envahissant l'aine; adynamie.

Le Dr. MATIGNON, médecin de la Légation de France à Pékin, se trouvant, le 5 juin, de passage à Macao, en route pour l'Europe, voulut bien visiter l'hôpital de Lappa et la baraque aux expériences.

En sa présence, quelques injections au sérum furent faites sur la malade No. 6, chez laquelle une amélioration se manifesta aussitôt, amélioration qui se continua quelque temps. Malheureusement, la piqûre, faite à cette occasion à l'avant-bras, détermina un érysipèle qui, dans ce milieu empoisonné, s'aggrava rapidement, envahit la face en quelques heures, et finit par emporter la malade dans la nuit du 6 juin. Mais il faut noter que la fièvre était tombée d'abord à 39°, puis à 37°.4, et que le bubon était devenu moins douloureux et quelque peu réduit.

Le milieu, malgré toutes les précautions, influait sur les expériences.

Presque en même temps, le malade No. 3, dont le bubon, légèrement ramolli, venait d'être ouvert par moi, et que l'on considérait comme déjà en voie de convalescence, présenta les premiers symptômes d'une septicémie aiguë, rebelle à tout traitement.

Comme le montre son diagramme, la fièvre devint continue, typhoïde, mais conserva jusqu'à la fin le type irrégulier de la septicémie aiguë.

Les choses devenaient sérieuses. D'un côté, les docteurs chinois, de l'autre, les conditions hygiéniques, concouraient à annuler les résultats des expériences au sérum antipesteux; les malades qui échappaient à la peste risquaient de succomber sous l'action délétère du milieu nosocomial. Sur les quatorze malades reçus à la baraque au commencement de la deuxième semaine, je n'avais envoyé en état de guérison que les Nos. 2, 7 et 10, j'avais perdu les Nos. 1, 5, 6, 8, 12 et 14, et j'allais perdre assurément les autres que, pourtant, je considérais déjà comme tout à fait débarrassés du procès-morbide pesteux.

De toute nécessité, il fallait aviser promptement, et je me proposai de faire transporter sans délai mes malades à l'hôpital provisoire de D. Maria, où le milieu oxygéné les guérirait probablement tous. En tous cas, dans ces nouvelles conditions, il ne serait plus permis d'attribuer l'issue fatale au milieu nosocomial.

Mais il n'en alla pas si vite. J'avais tort de compter sur la confiance de mes malades, oubliant que c'est à des Chinois que j'avais affaire. Ils voulaient bien comprendre que le système des inoculations était beau, que les résultats en étaient merveilleux; et ils admettaient même que les soins prodigués par les docteurs et les infirmiers européens leur inspiraient une gratitude sans bornes. Mais il ne fallait pas leur parler de changement d'hôpital. C'est là qu'on les avait guéris—du moins, ils le croyaient: c'est là qu'ils voulaient finir les opérations.

En attendant, m'étant fait une conviction sur l'efficacité absolue du sérum, j'entrepris simultanément des expériences à l'hôpital de D. Maria. Malheureusement, les sujets n'y abondaient pas, par la bonne raison que l'épidémie décroissait rapidement. J'obtins pourtant trois malades, dans les conditions suivantes:—

No. 15.—Homme, 19 ans: température 39°; pouls 120; bubon crural droit depuis 24 heures; état général satisfaisant.

No. 16.—Homme, 15 ans: chétif, tuberculeux; température 38°.5; bubon inguinal droit depuis deux jours; pouls 100, trop faible; état général grave.

No. 17.—Femme, 45 ans: température 40°.8; pouls 120; bubon axillaire gauche depuis un jour; vomissements fréquents; état général grave.

On voit de suite que le malade No. 15 offrait la forme typique de la peste, pendant que les deux autres en présentait la forme grave, pneumonique chez le No. 16, gastrique chez le No. 17. Je dois avouer avoir eu un moment d'hésitation avant de prendre pour sujet le No. 16, tant j'étais sûr qu'il était condamné d'avance par sa constitution chétive, par sa diathèse tuberculeuse, et par l'état avancé du procès pesteux. Mais je n'avais pas à choisir; il me fallait prendre les choses comme elles étaient. En dehors des convalescents et des agonisants, il n'y avait que ces trois malades à l'hôpital. Or, le sérum allait rester inutilisé, faute d'occasion de l'appliquer; il n'y avait du reste rien à risquer, et quelques résultats de plus à enregistrer probablement.

Chez ces trois malades, l'action du sérum fut immédiate; les températures tombèrent et les bubons diminuèrent sensiblement de volume. Le lendemain de l'inoculation, le malade No. 16 mourut avec tous les symptômes de la pneumonie grave; il avait eu des expuitions de sang, s'était plaint de points de côté et avait souffert de dyspnée; mais la température était tombée à 38°, et le bubon était tout à fait réduit quand survint l'agonie.

Chez le No. 15, l'effet fut non moins rapide et sûr qu'il l'avait était chez le No. 10 à l'hôpital de Lappa: réduction complète du bubon en 36 heures et descente rapide de la température, comme on peut le voir par le diagramme. Après la disparition du bubon, le malade souffrit de deux accès de fièvre paludéenne dont la quinine eut promptement raison.

La malade No. 17 mit plus de temps pour arriver à la guérison. C'était, d'ailleurs, une forme grave de la maladie, dont je craignais, et pour cause, l'issue fatale. Le diagramme de la fièvre chez cette malade donne toutes les indications nécessaires.

Cependant, le temps passait, et l'état de mes malades à l'hôpital de Lappa ne s'améliorait guère. La malade No. 9 était de fort près menacée de la pourriture d'hôpital, et de jour en jour empirait son bubon, largement ouvert, et évidemment un foyer terrible d'auto-infection.

Je pris une résolution. Le 14 juin, je fis ostensiblement mes adieux à mes malades et donnai avec affectation ordre au personnel de l'infirmerie d'avoir à transporter à Macao tous les ustensiles, dont on avait fait usage depuis que la baraque m'avait été livrée. Mes collègues addressèrent de même leur adieux aux malades, qui ne pouvaient en croire leurs oreilles. Au pis aller, nous n'avions rien à perdre. Les docteurs chinois allaient avoir de nouveau à leur charge et la baraque et les cinq malades que le sérum avait arrachés aux griffes de la peste et pour lesquels il nous était impossible de faire davantage dans ce milieu délétère. Nous rendions ces malades aux seuls soins qu'ils méritaient, puisqu'ils nous refusaient leur confiance. Tout serait donc pour le mieux.

Mais le lendemain, quand ils comprirent que c'était sérieux, et qu'ils virent les infirmiers prendre leur dispositions pour partir, emportant avec eux leurs ustensiles, les malades se mirent à crier et à réclamer: ils déclarèrent qu'ils ne voulaient plus du traitement chinois et qu'ils nous suivraient à quelque endroit que nous voudrions.

Que n'ai-je eu plus tôt recours à ce stratagème! Le malade No. 3 aurait fort probablement été sauvé comme les autres. Mais il était trop tard pour lui: 40 heures après son arrivée à l'hôpital provisoire, le matin du 16 juin, il succomba avec une température de 42° et d'autres signes de septicémie aiguë.

Le tableau qui résume le mouvement d'entrée et de sortie des malades à la baraque de Lappa montre les résultats obtenus par le sérum antipesteux du Dr. YERSIN. En y ajoutant les trois malades inoculés à l'hôpital provisoire, nous avons une mortalité de 47 pour cent. Toutefois, il est bon de préciser. Même en ne tenant compte que des chiffres, et sans entrer dans le détail des cas individuels, le sérum antipesteux aurait donné d'excellentes preuves d'utilité, puisque, jusqu'à ce jour, la mortalité par la peste, soit dans les villes chinoises, soit à Hongkong ou aux Indes anglaises, a toujours été bien au-dessus de ce chiffre. Mais il s'agit de regarder les choses de plus près.

Les injections au sérum ont, le premier cas excepté, produit toujours une chute de température, soit que l'effet fût retardé (obs. 3, 11, 14, 16), soit qu'il fût immédiat (toutes les autres observations).

Le sérum a déterminé la résorption des bubons qui n'étaient pas encore ramollis (obs. 2, 6, 7, 10, 11, 14, 15, 16, 17).

La douleur locale a toujours été calmée après injections (sauf dans les obs. 1, 5, 8, 11).

Dans les cas typiques, guérison a toujours été obtenue; rapide, si les cas étaient récents (obs. 2, 10, 15); retardée, dans les cas plus avancés (obs. 4, 9, 12, 13, auxquelles il faut à la rigueur ajouter l'observation 3, puisque le malade était en voie de guérison quand il a contracté la septicémie qui le tua).

Dans les cas graves ou compliqués, le sérum a presque toujours été impuissant (obs. 1, 5, 8, 11, 14, 16), n'ayant réussi que sur deux malades (obs. 7, 17).

Le milieu nosocomial a eu, dans quelques cas, une influence très-marquée. Il convient de lui attribuer la mort des deux malades empoisonnés à l'hôpital de Lappa (obs. 3, 6) et la guérison de ceux transférés à temps à D. Maria (obs. 4, 9, 11, 13).

Il faudrait une certaine hardiesse et beaucoup d'autorité pour oser tirer des conclusions générales de cette poignée d'observations. Ces deux qualités me manquent, et je ne saurais établir des principes absolus pour le traitement du terrible fléau. Mais j'ai le droit d'exposer l'opinion que je me suis faite à ce sujet, et de faire appel à la critique impartiale de mes collègues dans les contrées où la peste est devenue plus ou moins endémique, afin de les engager, par devoir, à chercher à l'avenir si mon avis doit être infirmé ou confirmé.

Cela posé, voici l'opinion que je professe en présence des faits acquis :—

1. Le pestiféré qui, dès les premiers symptômes, est transporté dans un milieu bien oxygéné, et est soumis au traitement par les injections sous-cutanées du sérum antipesteux de YERSIN et à un régime tonique et réparateur, doit guérir facilement.
2. Le pestiféré qui n'aura recours à ce traitement qu'après l'apparition des bubons a encore pour lui toute chance de guérison, surtout s'il n'y a pas encore de complication sérieuse.
3. Le pestiféré atteint de lésions consécutives n'a rien, ou peu de chose, à espérer du traitement, surtout si les lésions portent sur l'appareil circulatoire, respiratoire ou nerveux (méningite, hémorrhagie, cérébrale, voire, congestion encéphalique).

Si, comme je l'espère, d'autres expériences viennent à l'appui de cette opinion, on réussira probablement à vaincre la répugnance des pestiférés à recourir aux hôpitaux spéciaux pour traitement de la peste.

Et pareil résultat, est-il besoin de le dire, sera un grand pas de fait vers l'amoindrissement de la mortalité par cette terrible maladie, qui s'appelle la peste bubonique !

TABLEAU I.

MOUVEMENT DE L'HÔPITAL PROVISOIRE DE LA PESTE À MACAO, DU 25 AVRIL AU 30 JUIN 1898.

	ENTRÉS.	SORTIS.	DÉCÉDÉS.	MORTALITÉ. (Pour cent.)
Sexe:—Masculin	23	10	13	56
Féminin	27	9	18	66
Âge:—Enfants (au-dessous de 16 ans)	16	3	13	81
Adultes (de 16 à 60 ans)	31	16	15	48
Vieillards (au-dessus de 60 ans)	3	...	3	100
Origine et nationalité:—				
Portugais:—Eurasiens	20	6	14	66
Timorèses	1	1	...	
Chinois	9	3	6	
Étrangers:—Italiens	1	...	1	55
Américains	2	2	...	
Philippinois	1	...	1	
Chinois	16	7	9	
Maladies:—				
Peste bubonique, forme:—Grave	29	3	26	89
Typique	11	10	1	9
Avortée	2	2	...	...
Autres	8	4	4	50
Traitement:—Causal (sérum antipesteux)	3	2	1	33
Symptomatique	23	17	6	26
Nul (agonisants ou presque)	24	...	24	100
TOTAL	50	19	31	62

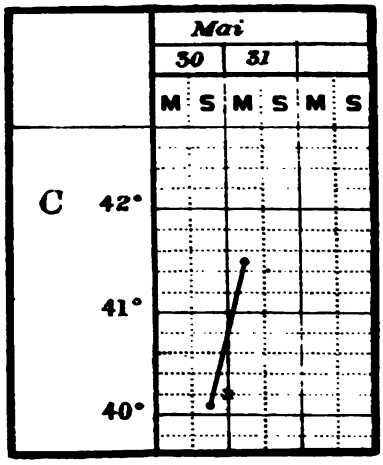
TABLEAU II.

MOUVEMENT DE L'HÔPITAL-BARAQUE ANNEXÉ À L'HÔPITAL DE LAPPA, DU 30 MAI AU 15 JUIN 1898.

	ENTRÉS.	SORTIS.	DÉCÉDÉS.
Sexe:—Masculin	8	5	3
Féminin	6	3	3
Âge:—Enfants	2	1	1
Adultes	12	7	5
Forme de la peste:—Grave	7	1	6
Typique	7	7	...
TOTAL	14	8	6

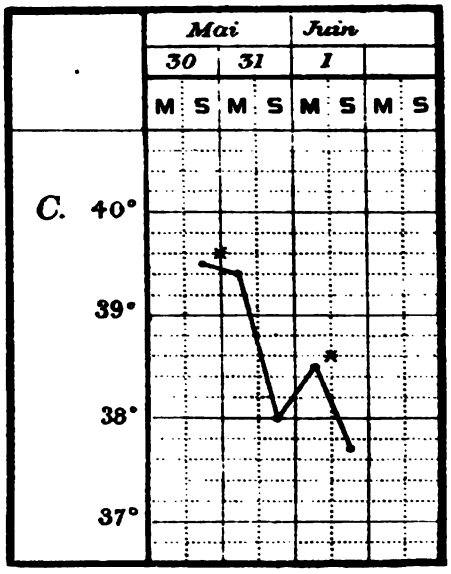
Mortalité . . . . . 43 pour cent.

No. 1.—Forme grave, nerveuse. MACHON, Chinois, 27 ans. *Mort.*



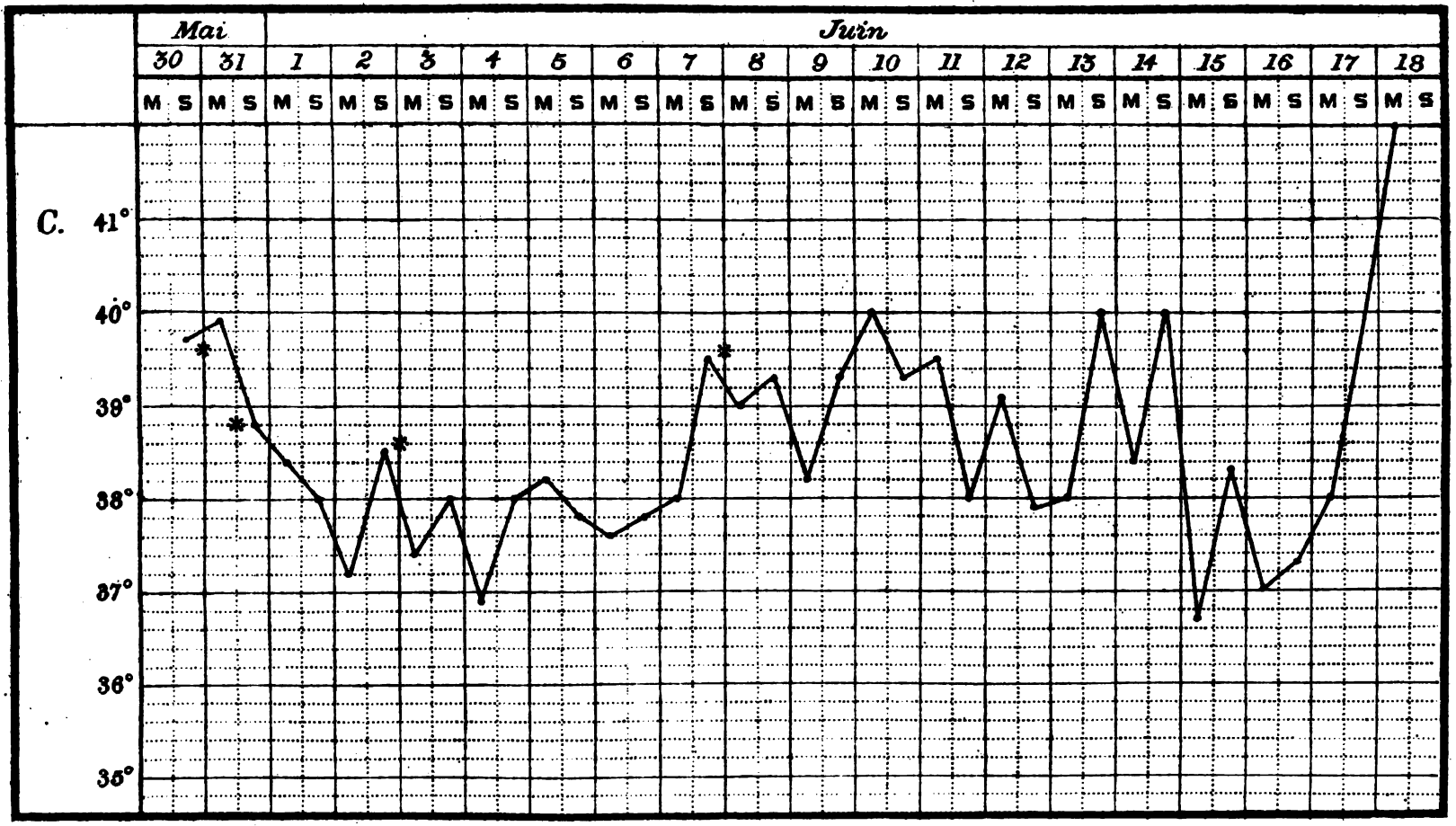
* 30 mai, 6 h.s.: injection de 10c.c. de sérum.

No. 2.—Forme typique. MACHIN, Chinois, 23 ans. *Guéri.*



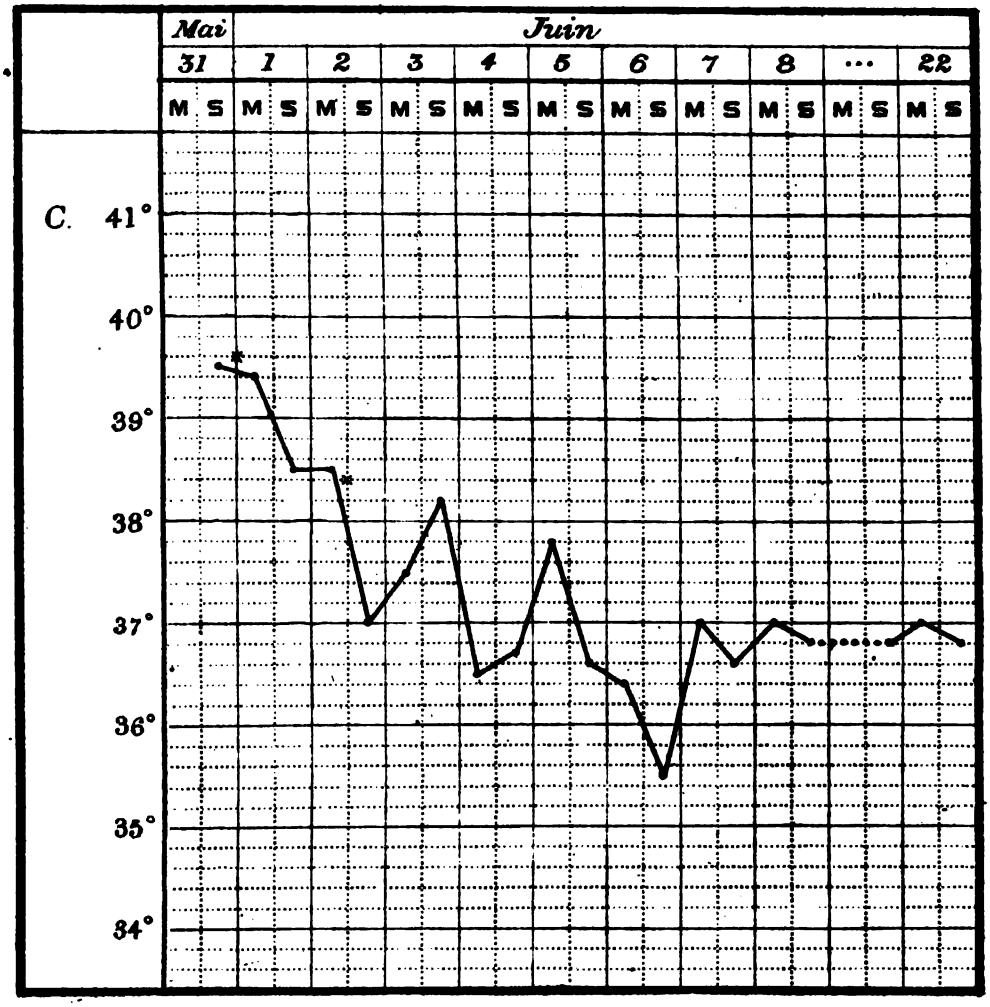
* 30 mai, 5 h.s.: injection de 20c.c. de sérum.
* 1 juin, 7 h.m.: injection de 10c.c. de sérum.
2 juin, 5 h.m.: sorti, sur sa demande. Bubon disparu ; température normale.

No. 3.—Forme typique. Laï Akin, Chinois, 20 ans. *Mort* par septicémie aiguë.



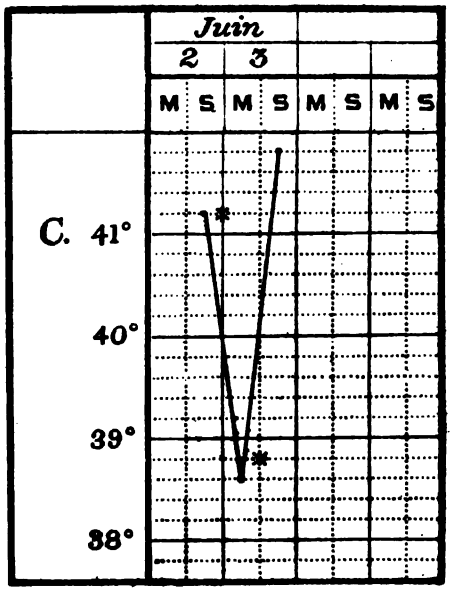
* 30 mai, 5 h.s.: injection de 20c.c. de sérum.
* 31 mai, 3 h.s.: injection de 10c.c. de sérum.
* 2 juin, 7 h.s.: injection de 20c.c. de sérum.
4 juin: commencement de fluctuation du bubon.
6 juin: ouverture chirurgicale du bubon; suppuration abondante.
* 7 juin, 7 h.s.: injection de 10c.c. de sérum.
10 juin: la fièvre dénonce la septicémie; le malade mange et boit comme à l'ordinaire; il se promène dans la baraque, très-satisfait.
15 juin: après la crise, le malade tombe dans l'adynamie.
16 juin: transporté à l'hôpital de D. Maria, il se sent mieux; le lendemain, il tombe dans le coma.
18 juin: mort, sans que la plaie du bubon ait jamais montré un très-mauvais caractère.

No. 4.—Forme typique. LEONG ALIT, Chinois, 27 ans. *Guéri.*



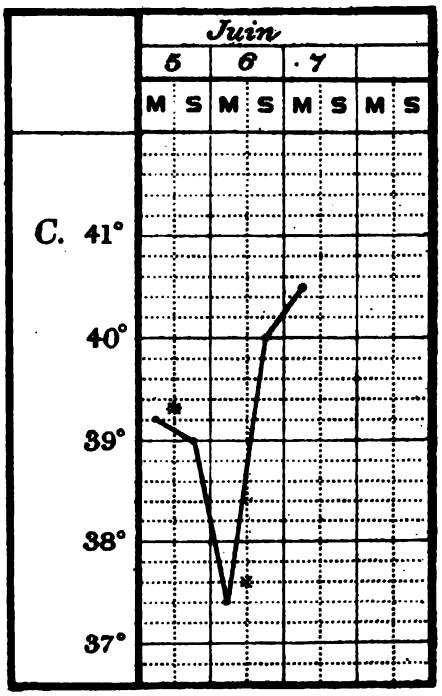
* 31 mai, 6 h.s.: injection de 20c.c. de sérum.
* 2 juin, 11 h.m.: injection de 10c.c. de sérum.
5 juin: ouverture spontanée du bubon.
22 juin: cicatrisation. Sorti.

No. 5.—Forme grave, gastrique. LAU PINKUAN, Chinoise, 17 ans. *Morte.*



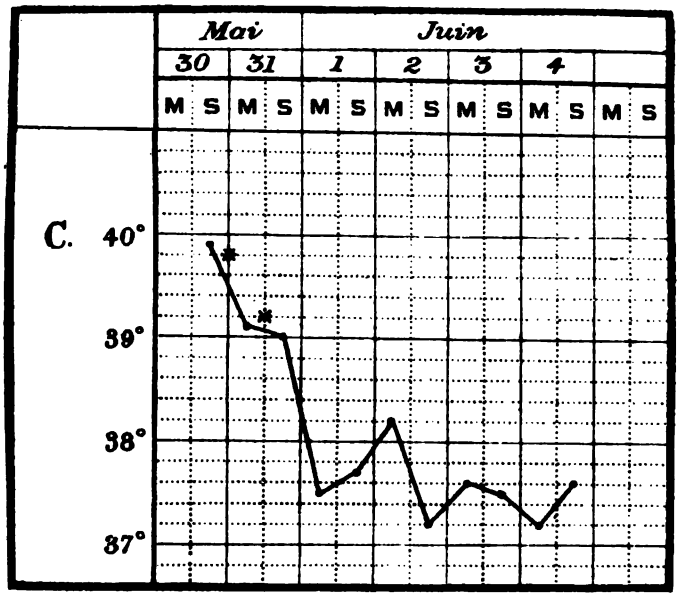
* 2 juin, 6 h.s.: injection de 20c.c. de sérum.
* 3 juin, 10 h.m.: injection de 10c.c. de sérum.

No. 6.—Forme grave, cardiaque. CHEONGSI, Chinoise, 43 ans. *Morte* d'érysipèle grave.



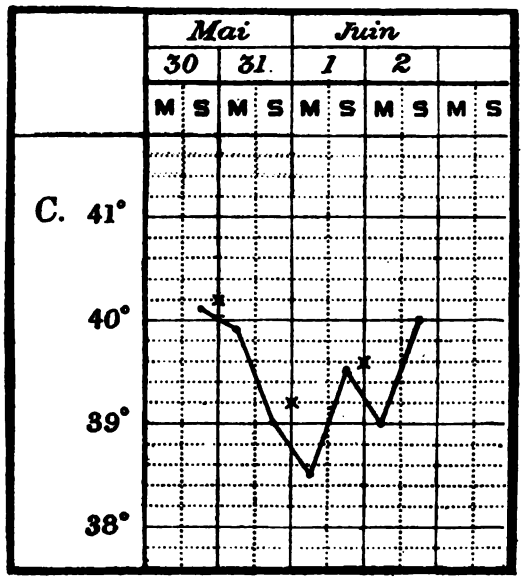
* 5 juin, 9 h.m.: injection de 20c.c. de sérum.
* 6 juin, 8 h.m.: injection de 20c.c. de sérum.

No. 7.—Forme grave, nerveuse. CAIFONG, Chinoise, 20 ans. *Guérie.*



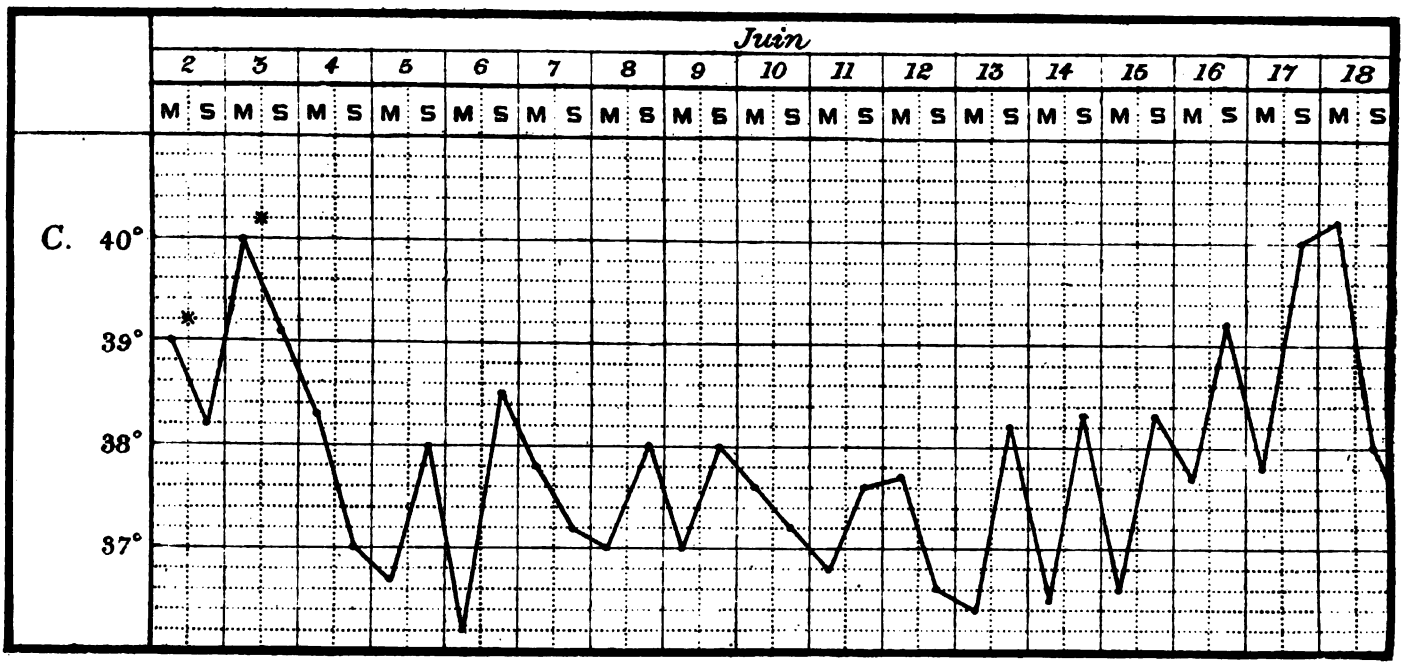
* 30 mai, 6 h.s.: injection de 20c.c. de sérum.
* 31 mai, 6 h.s.: injection de 10c.c. de sérum.

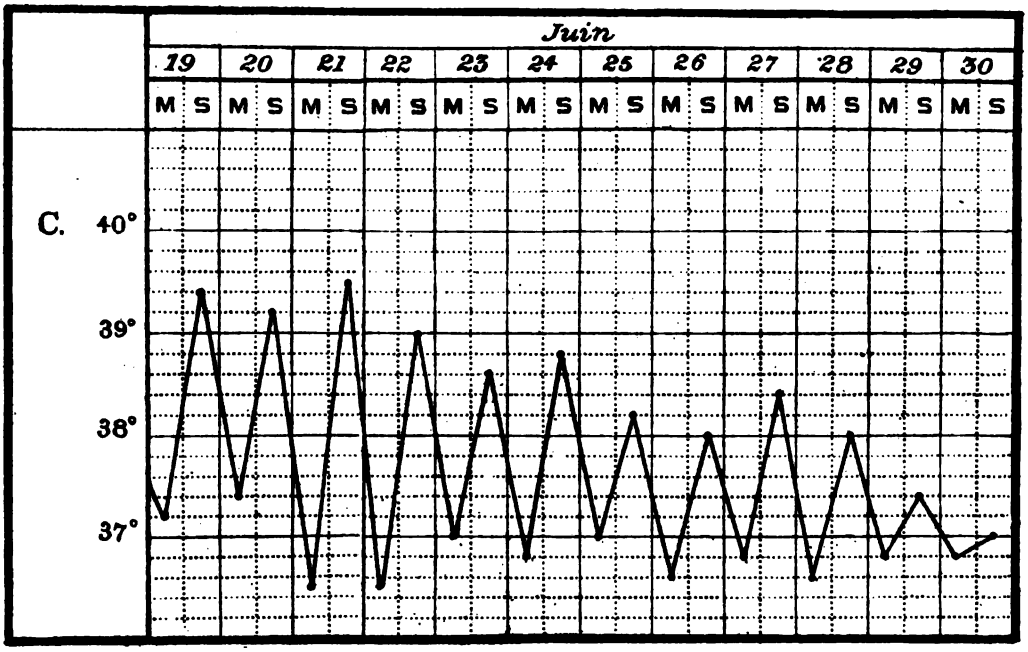
No. 8.—Forme grave, nerveuse. PAU ATIP, Chinoise, 14 ans. *Morte.*



* 30 mai, 5 h.s.: injection de 30c.c. de sérum.
* 31 mai, 6 h.s.: injection de 10c.c. de sérum.
* 1 juin, 6 h.s.: injection de 10c.c. de sérum.
Délire ataxique, continu, depuis son entrée à l'hôpital jusqu'à la mort.

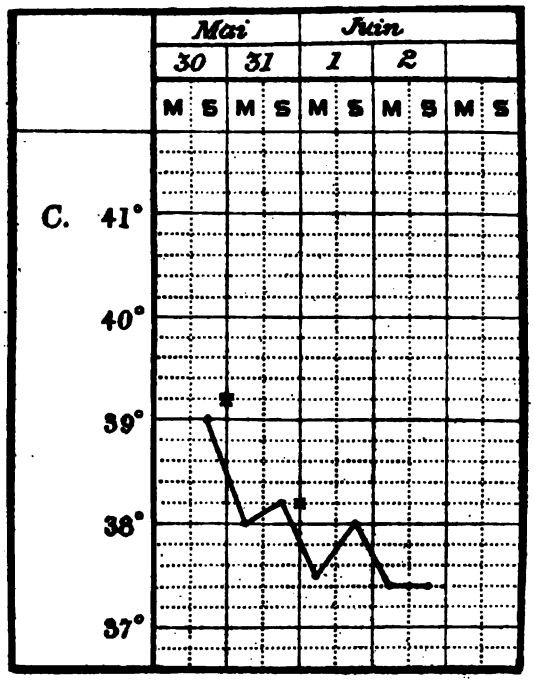
No. 9.—Forme typique. LEONG AHI, Chinoise, 50 ans. Septicémie. *Guérie.*





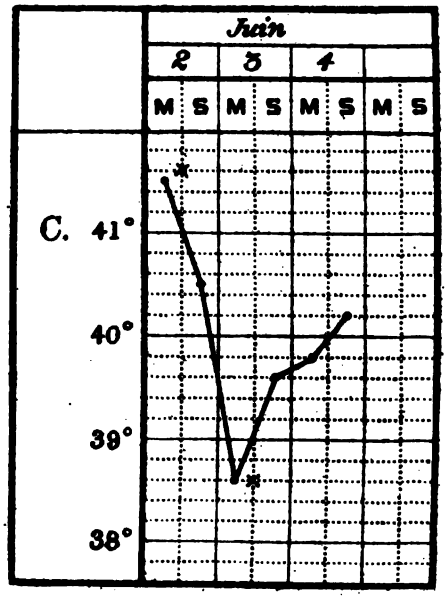
* 2 juin, 11 h.m.: injection de 20c.c. de sérum.
* 3 juin, 10 h.m.: injection de 10c.c. de sérum.

No. 10.—Forme typique. CAU ACHIU, Chinoise, 13 ans. *Guérie.*



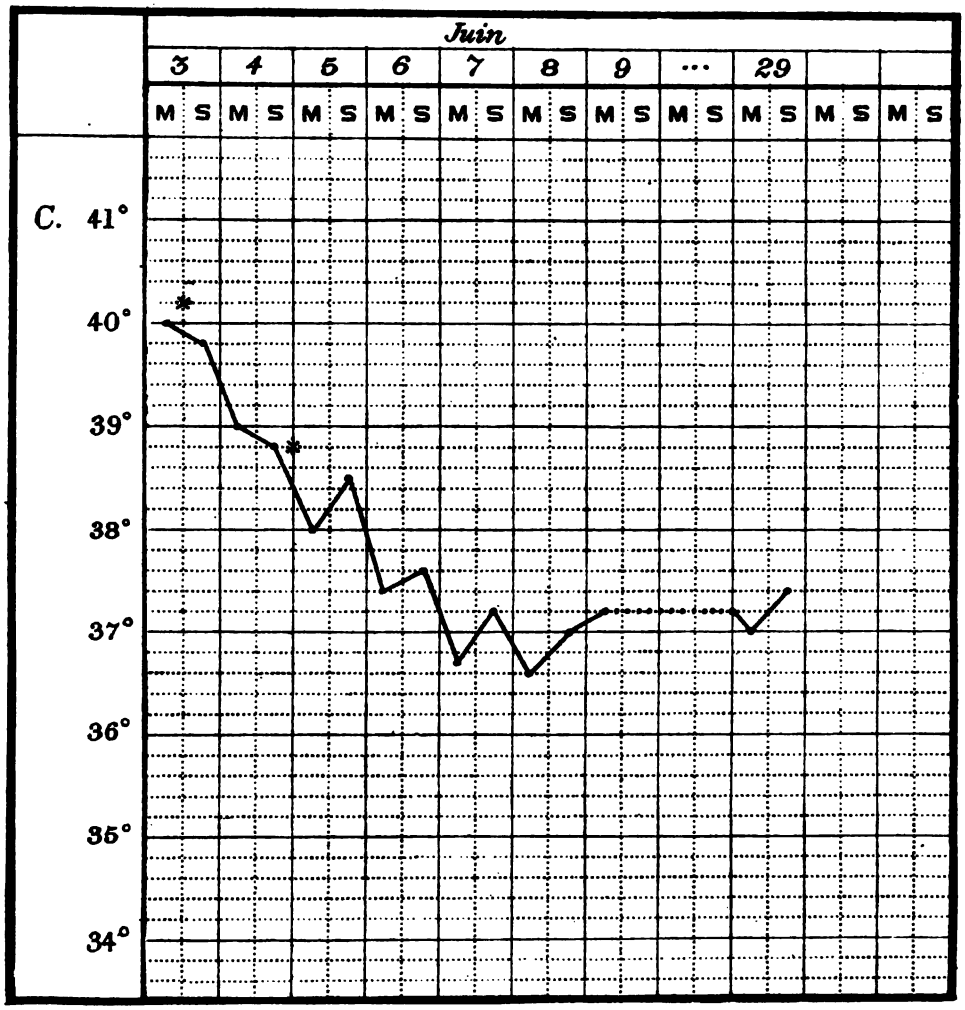
* 30 mai, 6 h.s. : injection de 20c.c. de sérum.
* 31 mai, 6 h.s. : injection de 10c.c. de sérum.

No. 11.—Forme grave, cardiaque. LI ATAI, Chinois, 30 ans. *Mort.*



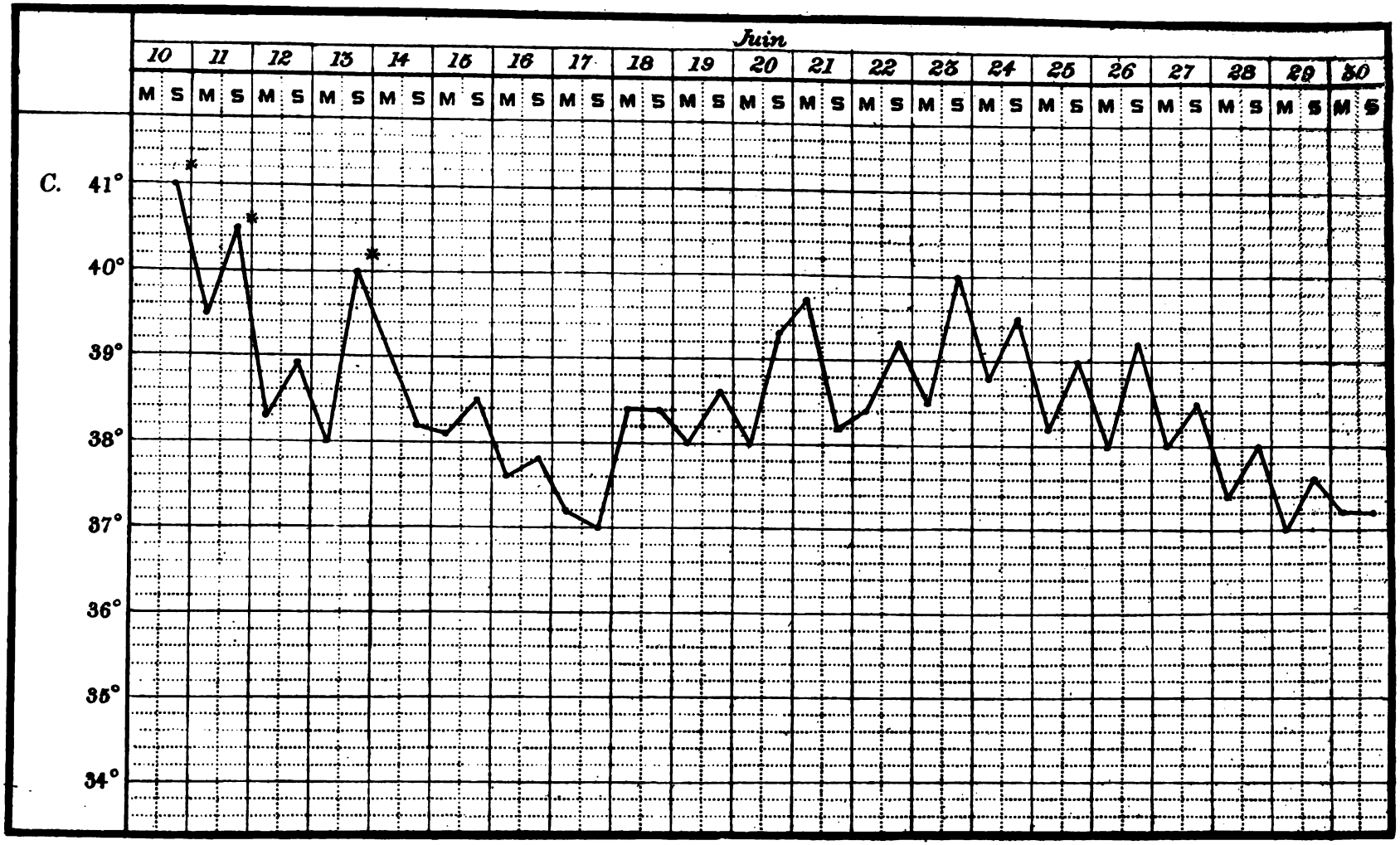
* 2 juin, 6 h.m. : injection de 20c.c. de sérum.
* 3 juin, 6 h.m. : injection de 10c.c. de sérum.

No. 12.—Forme typique. CHAU AFEI, Chinois, 30 ans. *Guéri.*



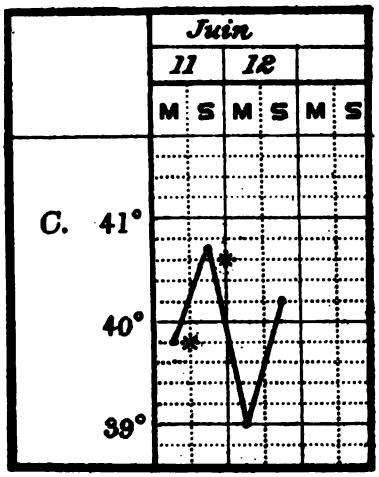
* 3 juin, 11 h.m.: injection de 20c.c. de sérum.
* 4 juin, 6 h.s.: injection de 10c.c. de sérum.
7 juin: ouverture chirurgicale du bubon.
29 juin: cicatrisation complète.

No. 13.—Forme typique. CHOIFOC, Chinois, 23 ans. Septicémie. *Guéri.*



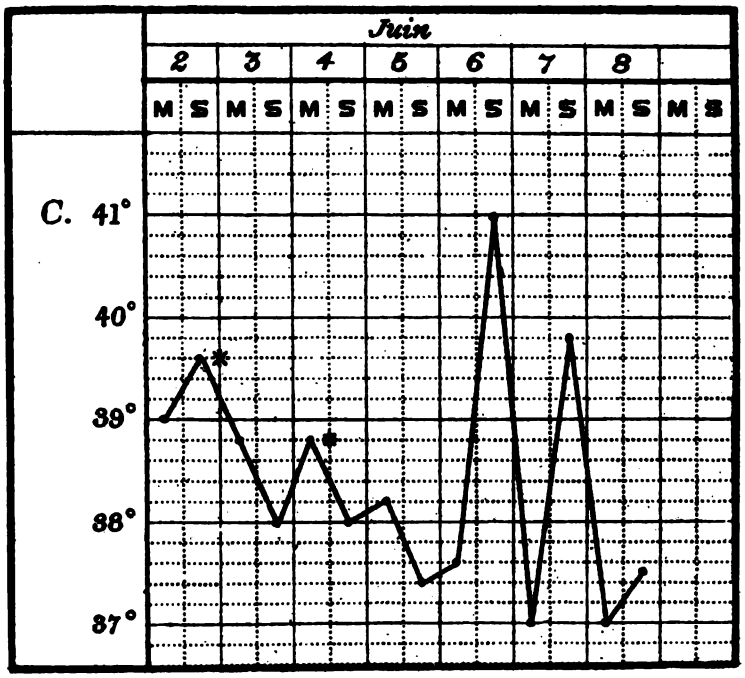
* 10 juin, 5 h.s. : injection de 20c.c. de sérum.
* 11 juin, 7 h.s. : injection de 10c.c. de sérum.
* 13 juin, 6 h.s. : injection de 10c.c. de sérum.
15 juin : ouverture chirurgicale du bubon.
18 juin : la plaie du bubon et l'ulcère au pied prennent un mauvais aspect, qui ne disparaît que vers la fin du mois.

No. 14.—Forme grave, gastrique. ACAT, Chinois, 23 ans. *Mort.*



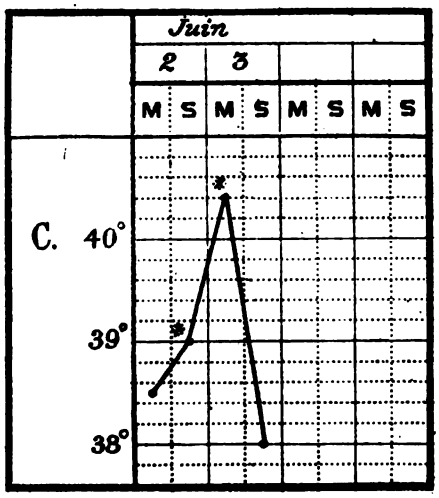
* 11 juin, 10 h.m.: injection de 20c.c. de sérum. 6 h.s.: injection de 10c.c. de sérum.
Vomissements incoercibles depuis l'entrée jusqu'à la mort.

No. 15.—Forme typique. SINIBALDO L., Eurasien, 19 ans. **Malaria.** *Guéri.*



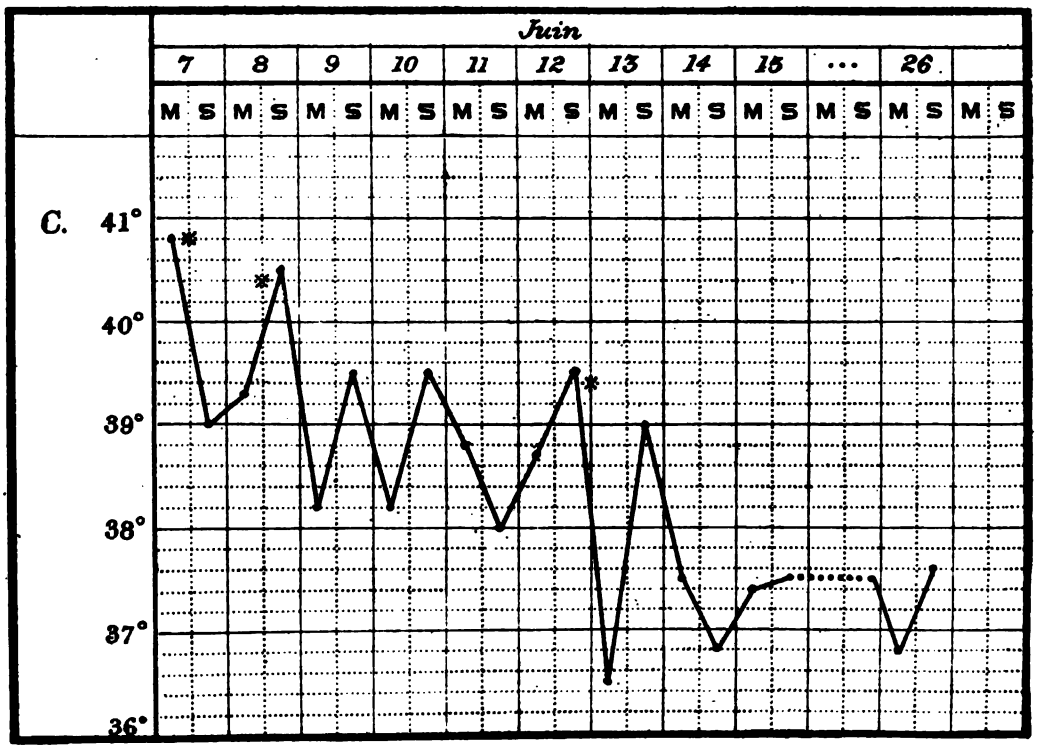
* 2 juin, 6 h.s.: injection de 20c.c. de sérum.
* 4 juin, 7 h.m.: injection de 10c.c. de sérum.
6 juin, de 4 à 9 h.s.: accès de fièvre paludéenne.
7 juin, de 6 à 8 h.s.: nouvel accès, moins fort.
9 juin: sur sa demande, le malade quitte l'hôpital, à 6 h.m., pour se rendre chez lui, où il se porte toujours bien, tout à fait guéri.

No. 16.—Forme grave, pneumonique. FRANCISCO P., Eurasien, 15 ans. *Mort.*



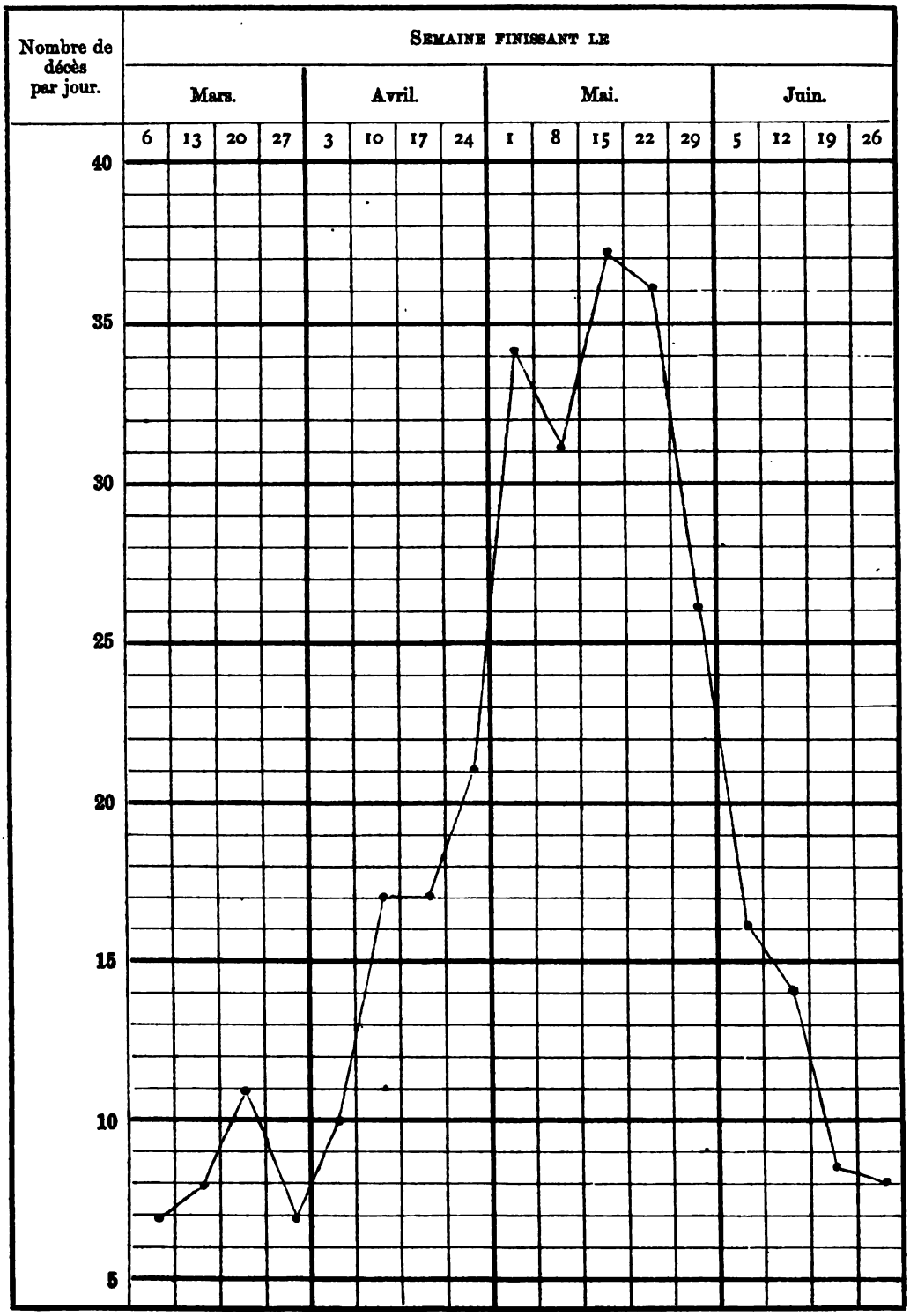
* 2 juin, 4 h.s. : injection de 20c.c. de sérum.
* 3 juin, 11 h.m. : injection de 10c.c. de sérum.
Bubon disparu avant la mort.

No. 17.—Forme grave, gastrique. CEDALISA M. T., Eurasienne, 45 ans. *Guérie.*



* 7 juin, 7 h.m. : injection de 20c.c. de sérum.
* 8 juin, 10 h.s. : injection de 10c.c. de sérum.
* 12 juin, 6 h.s. : injection de 10c.c. de sérum.

MORTALITÉ À MACAO (Y COMPRIS L'HÔPITAL DE LAPPA) PENDANT L'ÉPIDÉMIE DE PESTE DE 1898.



THE TREATMENT OF CHOLERA BY INTRAVENOUS SALINE INJECTIONS.*

By Robert H. Cox, F.R.C.S.

It is doubtful whether the immediate treatment of cholera is any more successful now than it was 65 years ago, for, notwithstanding the advance made in the treatment of almost every other disease, the mortality of this remains the same—death still claims about one-half of those attacked.

The number of remedies recommended from time to time is legion, and forms a veritable museum of strange methods. Even a list of these would occupy too much space, but it would include most of the drugs of the pharmacopœia; insufflation of air; tight bandaging; injection of the bladder, of the large intestine, of the peritoneum, and of the veins; bleeding; scalding; removal of atmospheric pressure; homœopathy; ligature of limbs; massage; percussion; application of heat and of cold; and vaccination. Curiously enough, as it may appear to us with our present knowledge of the disease, many of these have obtained a brief notoriety; but as intravenous injection, when properly employed, is the only treatment of the algid stage that produces an immediate and uniformly good result, it alone will be dealt with in this Paper.

History of Intravenous Injection.

The origin of intravenous injection may be dated from the experiment of a German sportsman, who, early in the 17th century, injected a mixture of wine and brandy into the veins of his dogs as an amusement. These animals suffered no ill effects as the result of this procedure other than a temporary state of intoxication.

In 1656 Sir Christopher Wren injected into the veins of a dog a solution of opium in sherry wine, in the presence of Boyle, who related that after a certain stupor the animal perfectly recovered. Boyle, some time later, injected the crocus antimonii into the veins of a criminal, and recommended the trial of cordials, antidotes, and diuretics in this manner.

In 1666 Dr. Lower succeeded in transferring the blood of one dog into the veins of a second by connecting a cervical artery of the former with a jugular vein of the latter, while at the same time he bled the recipient of a quantity of blood equal to its own weight.

In 1667 M. Denis, in France, successfully transfused small quantities of the blood of calves and lambs into the veins of five human beings; one so treated was said to have died

* The first part of this Paper appeared in *The China Medical Missionary Journal*, June 1897.

from the operation, but, as the result of the legal proceedings which followed, this charge was not proved.

A year later Dr. KING injected into the veins of a Cambridge student, reported to be mentally deficient, and who volunteered for the purpose, nearly 12 oz. of calf's blood. This operation caused no ill effects; but though repeated three weeks later, it failed to improve the mental condition.

At this time extraordinary ideas prevailed as to the effects expected from the use of this treatment. Suggestions were made that kings might have wisdom imparted to them through their veins, and that the mutual exchange of a few ounces of blood between husband and wife would cure and prevent matrimonial jars.

In 1691 MULLER found that mercury injected into the veins of animals produced points of suppuration round the metallic globules in the lungs.

BAGLIVI, in Italy, first pointed out the production of rigors by the injection of cold water, and the fatal effect of air being admitted into the circulation.

In 1785 FULLER proposed intravenous injection for the restoration of persons apparently drowned, and, some time afterwards, DARWIN proposed the same for stricture of the œsophagus.

Early in the present century MM. PERCY and LAURENT reported five recoveries out of eight cases of tetanus injected by them.

In 1820 MAJENDIE injected a quart of tepid water in a case of hydrophobia. The injection was followed by a complete state of calm, which lasted a week, and, although the patient afterwards died, such relief as this could not but stimulate to further trial. It showed the safety of large injections of liquid at the temperature of the blood. Henceforth it only remained to be learned that fluids of different densities could not safely be brought in contact with the blood corpuscles.

TREATMENT OF CHOLERA BY INTRAVENOUS INJECTION PROPOSED.

During the first recognised visitation of cholera to the British Isles, the epidemic of 1831–32, Dr. O'SHAUGHNESSY proposed to combat the collapse stage of that disease by means of intravenous injections, his idea being that the dark blood of cholera might be decarbonised by the addition of a solution of salt containing a large proportion of oxygen, such as chlorate of potash. He also gave the following summary as the results of his analysis of the blood in cholera cases:—

"1. A material diminution of the water of the blood of the cholera patient, the specific gravity of the serum ranging from 1041 to 1054;

"2. A notable decrease in the quantity of soluble salts, amounting, as far as regards the serum, to a mean loss of one-third of those substances;

"3. That the solid constituents of the crassamentum, including its salts, retained their normal proportions, wanting merely water to restore it to the standard state; and

"4. That the dejections were alkaline and albuminous, and contained the water and soluble salts in which the serum of the blood was deficient."

Employment of Saline Intravenous Injections in Cholera.

Dr. Latta, of Edinburgh, influenced by the above suggestion and analysis, was the first to practice intravenous injection in the collapse stage of cholera. His object, however, was not to supply oxygen to the blood, but to replace the salines and water lost from it by the purging and vomiting. He accomplished this by the introduction into the veins of large quantities of warm water containing common salt and carbonate of soda in solution, by means of a large syringe. The details of such an important event as this are best told in the author's own words; he says: "As soon as I learned the result of Dr. O'Shaughnessy's analysis, I attempted to restore the blood to its natural state by injecting copiously into the larger intestines warm water, holding in solution the requisite salts, and also administered quantities from time to time by the mouth, trusting that the power of absorption might not be altogether lost; but by these means I produced in no case any permanent benefit, but, on the contrary, I thought the tormina, vomiting, and purging were much aggravated thereby, to the further reduction of the little remaining strength of the patient. Finding thus that such, in common with all the ordinary means in use, was either useless or hurtful, I at length resolved to throw the fluid immediately into the circulation. In this, having no precedent to direct me, I proceeded with much caution. The first subject of experiment was an aged female, on whom all the usual remedies had been fully tried without producing one good symptom—the disease, uninterrupted, holding steadily on its course. She had apparently reached the last moments of her earthly existence, and now nothing could injure her—indeed, so entirely was she reduced that I feared I should be unable to get my apparatus ready ere she expired. Having inserted a tube into the basilic vein, cautiously—anxiously, I watched the effects; ounce after ounce was injected, but no visible change was produced. Still persevering I thought she began to breathe less laboriously; soon the sharpened features, and sunken eye, and fallen jaw, pale and cold, bearing the manifest impress of death's signet, began to glow with returning animation; the pulse, which had long ceased, returned to the wrist; at first small and quick, by degrees it became more and more distinct, fuller, slower, and firmer, and in the short space of half an hour, when six pints had been injected, she expressed in a firm voice that she was free from all uneasiness, actually became jocular, and fancied all she needed was a little sleep; her extremities were warm, and every feature bore the aspect of comfort and health. This being my first case I fancied my patient secure, and, from my great need of a little repose, left her in charge of the hospital surgeon; but I had not been long gone ere the vomiting and purging recurring soon reduced her to her former state of debility. I was not apprised of the event, and she sunk in five and a half hours after I left her. As she had previously been of a sound constitution, I have no doubt the case would have issued in complete reaction had the remedy, which already had produced such effect, been repeated."

Out of 15 cases of profound collapse thus treated by Dr. Latta, five recovered. Others followed in the path thus pointed out, and several were more successful than the pioneer.

In the next epidemic, that of 1848–49, the same method was employed at the London Hospital, where Dr. W. J. Little, who had practised the operation (under very unfavourable

circumstances) in seven cases with one recovery in 1832; thus treated seven patients with three recoveries.

During the epidemic of 1866 Dr. L. S. LITTLE (son of the former), at the London Hospital, injected 20 cases, six of which recovered. In four of these cases, however, the injection used was other than saline, in two blood and in two serum, all of which died, so that the number of recoveries after saline injection was six out of 16.

Since then this method of treatment has been employed on many occasions with varying success, but generally in a half-hearted manner, and always only after other means have failed and the patient is at death's door.

In August 1896 I saw Dr. L. S. LITTLE employ this procedure in an apparently hopeless case with success at the Shanghai General Hospital, and so impressed was I with the wonderful effects of the injections and the ultimate result that I volunteered to assist him in any future cases it might be deemed necessary to inject, as such form of treatment entails unflagging attention on the part of the medical attendants. This offer was willingly accepted. During the three months, August, September, and October, there were 21 cases of cholera admitted into the hospital, and of these 11 were treated by intravenous saline injections, with seven recoveries and four deaths. Of the 10 non-injected cases five recovered and five died. Taking both classes together the total mortality from cholera for the year 1896 was less than any year since the hospital was first established in 1864, with the exception of the first year, when it might be safe to say that probably cases other than true cholera were included among the recoveries.* If the injected cases of 1896 alone be taken and contrasted with the average mortality for the 33 years, the figures show 59 per cent. as average for the previous years, and 36 per cent. for 1896—a gain of 23 per cent. This large gain is, I believe, entirely due to the treatment by intravenous injection.

ACTION OF INTRAVENOUS INJECTIONS IN CHOLERA EXPLAINED.

It is now universally recognised that cholera is caused by the comma bacilli located in the intestinal tract. Their presence there may either occasion a hypersecretion of the *succus entericus*, poured out in such quantities as to drain the whole body of its fluids, the blood being the first and chief sufferer, or have such a paralysing effect on the mucous membrane of the intestinal tract as to reduce its functions to that of a mere filter, which, acting under the pressure of the heart and arteries, permits the water and salts of the blood to escape in the direction of least resistance. That it is this lack of fluid in the blood which causes most, if not all, of the symptoms of the algid stage of cholera is proved by their disappearance on injection. Indeed, similar symptoms may even occur without the presence of the bacillus, as in excessive diarrhœa, the too free use of saline purgatives, or after excessive hæmorrhage. If the poisonous product of the bacilli is responsible for any of these phenomena, it is probable that the fluid injected has a double action; thus, in addition to restoring the bulk and fluidity of the blood, it may also have either a direct antidotal effect towards this toxin, or, by reason of renewing

* *See* Tables I and II.

and maintaining the normal condition of the blood, permit of the cells secreting the antitoxin necessary to neutralise such poisonous product.

If we examine these symptoms of the collapse stage, the following may be accepted as causes arising solely from the loss of the blood plasma and local irritation by the bacilli:—

Symptoms.	*Causes.*
1. Weak heart	Diminished volume of blood in heart and vessels.
2. Feeble pulse	
3. Shrivelled extremities	and stasis of inspissated blood in capillaries and small vessels.
4. Cold breath	
5. Shrunken eyeballs	
6. Cramps	
7. Great thirst	and by loss of body fluids.
8. Whispering voice	producing dryness of vocal cords.
9. Rapid, shallow breathing . . .	producing venous blood supply to the respiratory centre.
10. Suppression of urine	Diminished blood pressure and amount of blood plasma; also absorption by mucous membrane of bladder.
11. Cold sweat	Stimulation of sympathetic by internal pyrexia.
12. Internal pyrexia	Increased activity of intestinal glands from local presence of comma bacillus; also cramps of skeletal muscles.
13. Alvine flux	Reflex irritation from intestinal tract, produced by presence of comma bacillus and fluid accumulation.
14. Vomiting	
15. Hiccough	

It must, however, be remembered that no single cause can act without having that action modified by others also called into play.

As the function of absorption of the intestinal tract is almost entirely held in abeyance during collapse, all fluids or drugs administered by the mouth or lower bowel remain either unabsorbed or are ejected without giving any relief during this stage. How different is it when intravenous injection is resorted to! Anyone who has ever seen or practised the operation is never likely to forget the wonderful change so almost invariably following. With very few exceptions (those with clots in heart and vessels), all the symptoms of the algid stage enumerated above vanish, with the exception of the diarrhœa; the first nine in almost as many minutes; the internal pyrexia falls to normal, and a moist, warm skin replaces the cold sweat as soon as the peripheral circulation is restored; vomiting and hiccough, if present, are immediately relieved; urine probably at once begins to be secreted and may be voided in a few hours; even the alvine flux may be diminished. Nor is this all, for as vomiting is checked by the injections, it also permits of the exhibition of remedies by the mouth, with the possibility of their being absorbed by the stomach or, failing that, of being brought in direct contact with the bacilli in the intestinal canal. From a moribund condition the patient may be brought to one of ease and

comfort, and during the passage of the fluid the most delightful feeling of relief is experienced—as though life were flowing in through the tube. After the good effects of one injection have worn off, patients eagerly beg for a repetition. There is no parallel in the whole practice of medicine for the wonderful change that takes place.

But this extraordinary revival is only temporary in many cases. After from two to six hours the condition of the patient may be as bad as ever, and he, if not injected again before too late, will die. The good effects are witnessed on re-injection as often as it is resorted to, unless the patient has sunk too low or collapsed too often, when the right heart becomes filled with blood clot—a hopeless condition. When a single injection is not sufficient to tide over the period of collapse till reaction is established, the duration of the benefit afforded by injection usually decreases with the number of times the operation has been performed.

The Collapse Stage the most Fatal Period in Cholera: Danger of postponing Injection.

Of the 227 deaths from cholera occurring since 1864 at the Shanghai General Hospital, 182 were on or before the third day; this represents 80 per cent. during collapse, of the total number of deaths.* From this it is evident that this stage is by far the most dangerous period of the disease.

In 1896 the first 10 injected cases were treated in the usual way; when a patient was so far gone that his case seemed hopeless, injection was resorted to, the quantity injected being regulated by the improvement produced. He was then watched, and if he sank to or near his former state, the injection was repeated as often as necessary.

That this plan is of great benefit is proved by the result, but it also has certain disadvantages; thus, the waiting for signs of improvement while other means are being tried, and postponing the injection till the pulse is absent, or nearly so, at the wrist, may result in the clotting of the inspissated blood in the heart and vessels from the stasis caused by peripheral failure. This condition was, I believe, present in three of the four fatal cases.† In the last it was very marked, the bed-card jottings of which I here reproduce:—

A. B., aged 39, French, admitted September 14–15 (midnight). Died September 15–16 (midnight). Taken ill after supper with vomiting, purging, and cramps; voice, a whisper.

4 A.M.—Collapse.

5 A.M.—Pulse imperceptible. Left basilic found with difficulty. 50 oz. injected.

9.30 A.M.—Collapsed; pulseless; respiration hurried; injected 65 oz. with obstructed slowness into right median-basilic.

12.15.—Collapsed. Internal saphenous vein opened in both legs above the inner malleoli; 15 oz. only was received into each. Large vein in forearm (posterior ulnar) opened, which only took up 20 oz.; making injection 50 oz. in all. Faint pulse came back. Was almost dead. Felt nothing of operations in three places.

* *See* Table VII.

† *See* Table VIII, cases 3, 4, and 10.

3.30 P.M.—Collapsed as before. Surface veins invisible. Cut down on and opened right basilic high up. Injected 160 oz.

7 P.M.—Very much better; would get up to stool; in good spirits.

9 P.M.—Doing fairly well.

12 P.M.—Collapsed suddenly about 11 P.M. Had passed enormous quantities of fluid into bed. Became very blue, almost black. Respiration very laboured, comatose. While preparing to inject left basilic vein death occurred.

Though there was no portmortem I feel sure there was clotting of the blood in the heart and vessels in this case. The smallness of the quantities admitted at the noon injections strongly supports this conclusion; later, where a vein deeper and nearer the heart was taken, the fluid flowed much better, but the sudden attack, which culminated in death, was, I think, due to embolism of one of the pulmonary arteries, from a clot dislodged from the right ventricle. The surface veins in this case were almost empty and, as a consequence, wonderfully small and difficult to find; as the pulse was absent, the proximal ligature of the limb was of no assistance alone, but the further application of a bandage from the extremity to the point of operation helped to make them discernible.

There were six operations in all, making a total of 16 pints of saline fluid injected. No pain was experienced by the patient during any of the operations, as he was in a semi-comatose state during their performance.

Continuous Intravenous Injection employed successfully to abort Collapse.

It was through this case that I was led to the thought that not only should injection be practised early, but it should also be employed continuously for a period calculated to outlast the collapse stage. I recognised in intravenous injection a means of counteracting the collapse, and that as long as the fluid was flowing collapse was impossible, the injected fluid taking the place of that drained by the intestines, thereby maintaining the normal volume of blood.

Dr. Little, approving of this idea, kindly promised me the treatment by this method of the next serious case; but on its admission I was not at hand and, as the case did not permit of even a short delay, he injected in his usual way and had finished before my arrival, when he handed over charge to me. As this was the last case injected (though there were three others admitted later, none of them exhibited marked collapse), and therefore the only one in which I had an opportunity of testing the continuous intravenous injection, I give the notes in full as they were written down at the time:—

Herbert Whitefare, aged 22, British, stoker, s.s. *Eldrichdale*, admitted 29th September, 11 A.M. Two days before admission had eaten some Chinese food in a native restaurant, including some fish which "smelt horribly," after which he had diarrhœa, which continued till admission. Next day (that previous to admission) he dived twice from the forecastle of the steamer into the water, a distance of about 45 feet, and swam about for an hour; after this he felt ill, which he attributed to striking the water with the back of his head at the first dive. Had bells ringing in his ears as if he got a heavy blow on each. On arrival at the hospital at

11 A.M. he lay down on the ground "doubled up with a lump in his stomach." He was admitted at once and seen by Dr. LITTLE, who made the following notes:—

11 A.M.—Voice, a whisper; tongue, ice cold; *facies*, very marked choleraic; pulse, fair, weak, 100; legs, very cold; cramps in legs very severe, began at 7 A.M.; cannot remain quiet; respiration, faint to occasional sighs; fingers shrivelled; temperature, axilla below 93°, rectum 98°.4.

11.30 A.M.—Injected 70 oz.; feels much better and cramps gone.

As Dr. LITTLE was good enough to send for me I arrived at 12.30, took over charge, and made the following notes:—

12.30 P.M.—Saw patient, after injection by Dr. LITTLE, with good reaction.

1.20 P.M.—Condition still good, but vomiting tinged with blood (?) very frequent, and stools about every 10 minutes, with occasional cramps; pulse weak, but fairly perceptible.

2 P.M.—Opened left median basilic and introduced glass nozzle, capable of supplying 1 oz. a minute at a height of 2½ feet; put splint at back of elbow and fastened nozzle in position with adhesive plaster. 120 oz. flowed in during the first two hours; afterwards the fluid ran slower; from 4 to 5.30 P.M. only 40 oz. passed, and by 6 P.M. 10 oz. more, making a total of 12 pints in all. From the time that the continuous injection was started the patient had no vomiting; his motions, of which he had only one during the first two hours but more frequently later, were passed into the bed, as it was necessary to keep him lying down; the only cramps he had were slight ones, shortly after the beginning of the injection, affecting the muscles of the great toe of each foot,—possibly due to exposure, as they disappeared on covering the feet. Before the second injection he had well marked cold perspiration, which continued for the first 20 minutes and then ceased, the skin becoming and remaining naturally warm and moist. At 5.30 he said he could pass urine if allowed to sit up.

6 P.M.—Allowed to sit on stool while bed is being made; passed copious rice-water discharge; commode bucket now half full (6 to 8 pints); passed urine freely at stool; bed soaked through with alvine discharge; said he "would like slippers to walk about." During change of bed the vessel with saline fluid was held too low, and as the flow had stopped the cannula was removed and found to be full of clotted blood. Decided not to renew injection then.

7.30 P.M.—Left patient well all round.

8.30 P.M.—Pulse 100, full; respiration easy, 22; voice, which has been improving all along, is now a good chest one; feels "first rate" and thinks he will be able to sleep. Has had two motions since 7.30; urine again with the first. Further injection considered unnecessary, but left orders to be sent for in case he had cramps or vomiting or became blue or restless.

30th, 9 A.M.—Pulse 84, strong; respiration, normal; slept well; says he is as well as I am; feels very hungry. To get rice water *ad lib.*

4.15 P.M.—Condition unchanged; to get milk and water.

8 P.M.—Condition unchanged; feels very hungry and begs for food; sleeps in snatches. Temperature in axilla 97°.4, in mouth 97°.8, in rectum 98°.4. Has been six or eight times to stool to-day; discharge coloured with bile.

October 1st, 9.30 A.M.—Slept well during the night; had several motions, about 3 pints, of bile-stained fluid in which comma bacilli were plentifully found (Dr. MACLEOD); is very

hungry. To have beef juice. From this date there was uninterrupted convalescence, and 10 days later he was transferred to the general wards, where he gained 12 lb. in weight during the first week. For a day or two he was occasionally troubled with slight hiccough, but a few drops of spirits of camphor on sugar (which had the effect of making him vomit) always relieved him. This was the only medical treatment he received.

Though the case above narrated cannot strictly be called one of continuous injection, seeing that there were two injections with an interval of over two hours between them, yet it shows in a marked manner the advantage of the method—that of keeping the blood to or near its normal bulk. The first injection accomplished this for the time being, thereby giving relief of the distressing symptoms, but as the drain on the blood fluid still continued for the succeeding two hours, without a compensatory augmentation by injection, the former symptoms of collapse gradually came back, and had not re-injection been resorted to the patient would in all probability have been in as sad a plight as before. Why, when the 120 oz. had flowed in during the first two hours, only 50 oz. should have passed during the second two hours, I can only explain by the supposition that the blood vessels became filled to, or beyond, the normal with the 120 oz., and so raised the blood pressure in them to or near the pressure of the column of water in the injection tube, and the slower flow afterwards was controlled and represented by the leakage from the veins to the intestines. The fact that all injections flow slower towards the end than at the beginning would seem to support this view. The incident of the blood finding its way into the cannula may be explained by the change of position assumed by the patient—from the recumbent to the upright,—while care only was taken to keep the reservoir at a higher level than the cannula; as, however, the bend of the elbow in this latter position was much lower than the right auricle, I am of the opinion that the reservoir for part of the time must have been as low or lower than the heart, which would fully account for this accident. The patient suffered no inconvenience during this long injection other than that caused by the presence of the straight splint on his extended arm, from which he asked to be relieved.

The Operation of Continuous Intravenous Injection described.

I will now describe the operation of continuous intravenous injection as employed in the above case, it being a modification of Dr. Little's method.

Apparatus.

1. A graduated glass irrigator, with 3 feet of small rubber tubing and glass nozzle, capable of supplying 1 oz. a minute under pressure of 2½ feet of water column, and covering lid.
2. Thermometer.
3. Scalpel, sharp pointed.
4. Dissecting forceps.
5. Probe.
6. Splint with padding.
7. Rubber adhesive plaster.

8. 1 dozen quarts distilled water.
9. 12-oz. bottle concentrated saline solution.
10. Bucket with hot water supply.
11. Dressing for wound.

The concentrated solution of salts is based (Dr. LITTLE) on those contained in normal blood, and is prepared in a concentrated form for convenience. The formula is as follows:—

Chloride of sodium	60 grains.
Bicarbonate of sodium	20 „
Phosphate of sodium	3 „
Chlorate of potassium	6 „
Distilled water	1 oz.

It should be freshly prepared, boiled, filtered, and placed in a graduated 12-oz. bottle. The addition of an ounce of this solution to 19 oz. of distilled water makes a suitable injection fluid. But common table salt of the above strength alone may be used prepared in the same way.

Distilled water should, if possible, be used in the injection, but carefully boiled and filtered water may be employed. The "silent," thrice distilled, water of the Aquarius Company—that used at the Shanghai General Hospital—is quite reliable; the so-called quart contains about an imperial pint.

The preparation of the injection may be thus accomplished:—The corks are drawn from three of the "quart" bottles, and an ounce of the contents of each poured into a measuring glass, where its purity can be judged, and then discarded. An ounce of the concentrated solution is then added to each of the three bottles; two of these are then placed in the bucket half-full of warm water, not too hot lest the glass breaks, and hotter water is gradually added till a thermometer inserted into the bottles shows a temperature of 108° F. One bottle is then taken out, dried on the outside with a towel, and its contents poured into the reservoir of the irrigator, where a couple of degrees will be lost in warming the glass. A small quantity of the fluid is then allowed to run through the tube and nozzle, to clear them of air and warm them. If the lid, with the thermometer projecting through it, be placed in position and the reservoir suspended from the cross-bar of the bed, or other suitable object at a height of 2½ feet from the patient's arm, the apparatus will be ready for use. The fluid in its passage from the reservoir to the nozzle loses 4 or 5 degrees of heat, so that it enters the vein at about 100° F. or a little higher, a couple of degrees one way or the other being of slight consequence. The supply of fluid and heat is maintained by the addition of warmer solution from the second bottle in the warming bucket, and if during the performance of this the temperature is raised too high at any time, it may be reduced by the addition of cold solution from the third bottle. In adding fluid while the injection is running, it is safer to compress the tube, lest a bubble of air be carried into the circulation.

Operation.

The patient is placed on his back in bed. A prominent vein is looked for, at the bend of the elbow for choice, where either the median-cephalic or median-basilic may be selected.

The long saphenous just above the inner malleolus is also a suitable site. The part is then washed and a bandage applied round the limb above, as in the operation for venesection, tight enough to impede the venous but not the arterial supply. If the pulse is not altogether gone at the wrist, this will make the vein more prominent. With the scalpel an incision, half an inch long, is made through the skin, over and in the course of the vein. A little dissection is now necessary to clean the vein and permit of the probe being passed beneath. When this is accomplished, the injection apparatus being ready, the anterior wall of the exposed vein is opened by puncturing it with the sharp pointed scalpel (or, better, a Symes' abscess knife) and cutting to the extent of about two lines. The ligature is then removed from the arm and, as the dark blood flows, the tapering nozzle of the injection apparatus, with the solution running, is inserted into the opening till it completely fills it. If the fluid is flowing, as shown by a fall in the reservoir, a padded splint is applied to the back of the arm and fastened above and below with two strips of rubber adhesive plaster, while a third strip is brought from the middle of the splint round the arm and glass nozzle, so as to fix the latter; this is best done by dividing up the free end of the plaster into three strips and then bringing one under and two over the nozzle. When the nozzle is securely placed and the injection satisfactorily flowing, the probe may be gently removed. The nozzle should be held perpendicular to the surface of the part in passing its tip into the vein, to avoid the possibility of passing it into the sheath or between the coats of the vein, and then directed upward along the course of the vessel. After removal of the tube the wound is dusted with iodoform and a pad and "figure of 8" bandage applied.

The apparatus thus arranged can be used for hours with very little discomfort to the patient—in my case it was four hours,—and its employment should be continued as long as the flow lasts, or till it is believed all danger from collapse is passed. Should the injection not have been continued long enough, as shown by a return of pulse failure and other collapse symptoms, the operation should be repeated in a new place.

Continuous Injection advocated as free from Danger and of lasting Benefit.

Whether it were known that, as I mentioned before, the addition of saline fluid to the choleraic blood simply makes it normal in fluidity and bulk, thereby allowing the circulatory, respiratory, digestive, and nervous systems to work smoothly, or, in addition to its loss of water and salts, this blood contains a toxin which the saline fluid directly neutralises, or permits of the leucocytes and tissue cells developing the necessary antitoxin to counteract this poison, is immaterial as far as the treatment is concerned. The fact remains that the introduction of normal saline solution into the veins at a moderate temperature and pressure is never followed by any evil effect—the argument that the relief obtainable is only temporary being the cause of its comparatively small employment; but with the continuous method here advocated this argument can no longer be used. It may therefore be said that continuous intravenous injection, practised as above described, is a harmless procedure—if employed early is certain to relieve the agonising symptoms of the algid stage and, I believe, altogether prevent the

continuance of this stage, in which three-fourths of the deaths occur. I would go further, though I do not feel on such safe ground, and express the opinion that this treatment also effects the reaction; that the amount of reaction depends on the degree and length of the previous collapse; by arresting the collapse the reaction is also modified. With the exception of the case injected by the continuous method, which supports this view, no proof can be obtained by comparing the reaction in injected cases as heretofore practised with others not so treated, seeing that the injected cases are allowed to become very collapsed to begin with, which state may recur again and again, and the majority of such would not live to show reaction were it not for the injections.

If this plan of treatment was universally employed from an early period of the disease, I think it possible that the mortality of cholera would be reduced from 50 to 15 in every 100 cases of this disease.

Continuous Saline Injections into the Intercellular Tissue, Peritoneum, or Pleuræ suggested.

Continuous saline injection might also be employed into the intercellular tissue, the peritoneum, or the pleuræ, with the same apparatus slightly modified, a hypodermic needle or Southey's cannula being substituted for the glass nozzle; but in marked collapse a primary intravenous injection should first be practised, at any rate in the case of intercellular injection, to restore the peripheral circulation, thereby permitting the more ready absorption of the fluid introduced, and to give immediate relief from the distressing symptoms—the object aimed at being the same as in the continuous intravenous injection, that of keeping the blood at its normal volume. Were such a measure successful, it would simplify the treatment and entail much less watchfulness on the part of the attendant.

Irrigation of the large intestine might also be employed in addition, with an O'Beirne's long tube and an anal speculum, the tube being passed, with the fluid flowing, as far as possible and the lower bowel thus washed out.

The appended tables (with the exception of the last) have been compiled from the register of the Shanghai General Hospital, and embrace the period from its first establishment in 1864 to the end of 1896. The following explanatory remarks may be of interest.

Cholera at Shanghai is more or less endemic, making an annual appearance generally towards the end of the summer.

Though the majority of foreigners attacked are seamen, the disease is nearly always acquired some days after arrival, and principally by those who have been on shore celebrating the end of a voyage in the usual sailor-like fashion.

The comparative immunity experienced by the foreign residents must be attributed to the hygienic precautions employed by this class with the better water, food, and houses used.

It should be remembered that the cases here given do not represent the total number of foreigners attacked, there being no compulsory entrance to hospital enforced at Shanghai; probably an additional number equal to about one-fourth of that here given have been treated outside the hospital.

TABLE I.

Number of Cases of Cholera admitted during each Year of Outbreak from 1864 to 1895 inclusive, with the Average Mortality for that Period.

YEAR.	NO. OF CASES.	RECOVERED.	DIED.	MORTALITY.
1864	16	11	5	31 per cent.
1865	18	8	10	55·5 „
1866	1	...	1	100 „
1867	12	4	8	67 „
1875	15	6	9	60 „
1877	18	8	10	55·5 „
1878	17	7	10	59 „
1879	1	...	1	100 „
1880	2	...	2	100 „
1881	26	14	12	46 „
1882	25	13	12	48 „
1883	28	8	20	71 „
1884	1	...	1	100 „
1885	39	16	23	59 „
1886	25	8	17	68 „
1887	26	8	18	69 „
1888	7	1	6	86 „
1889	2	1	1	50 „
1890	26	9	17	65 „
1891	39	18	21	54 „
1893	1	1	...	...
1895	24	10	14	58 per cent.
TOTAL	369	151	218	59 per cent.

From this table it will be seen that for some years there were no cases admitted, including one period of seven consecutive years. This, however, does not exclude the possibility of the disease occurring among the Chinese during this time, of which no record is obtainable.

The average mortality—59 per cent.—is high, which may be accounted for by the practice of the late physician of the hospital, Dr. LITTLE, of only entering well marked cases as cholera during the 28 years he officiated, while under the headings of "cholerine," "choleraic diarrhœa," and "choleraphobia" he placed some cases which another might include under the graver heading. His predecessor followed this latter course, judging from the absence of the milder designations in the hospital register and the fact that no less than 5 out of the 11 cases of recovery in 1864 were discharged cured on or before the 5th day, which explains the exceptionally low mortality of 31 per cent. for the first year; were these 5 excluded, the mortality would become 45 per cent., which would still be lower than any year prior to 1896.

TABLE II.

Number of Cases of Cholera admitted during 1896, with the Mortality of those treated by Injection and those by ordinary Means.

——	No. of Cases.	Recovered.	Died.	Mortality.
Injected	11	7	4	36 per cent.
Non-injected	10	5	5	50 „
Total 1896	21	12	9	43 per cent.

This table hardly does justice to the saline injection treatment, for the two classes of cases were not of equal gravity, the more severe ones being chosen for injection while the others were expected to recover without its aid. Treatment by injection, however, was only begun with the fifth case after three deaths had occurred in the first four.

TABLE III.

Advent and Duration of each Outbreak according to the Cases admitted, and Totals for each Month.

Year.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Total.
1864	...	4	9	3	...	...	...	16
1865	...	...	...	7	11	...	...	18
1866	...	...	1	...	...	...	...	1
1867	...	...	2	6	3	1	...	12
1875	...	...	...	...	...	7	8	15
1877	...	...	...	...	13	5	...	18
1878	...	...	...	3	5	6	3	17
1879	...	...	...	1	...	...	...	1
1880	...	...	...	...	2	...	...	2
1881	...	...	...	1	13	10	2	26
1882	...	...	...	2	20	3	...	25
1883	1	1	12	5	7	2	...	28
1884	...	...	...	...	...	...	1	1
1885	...	...	...	9	14	15	1	39
1886	1	...	...	3	15	5	1	25
1887	...	...	...	6	14	6	...	26
1888	...	...	...	6	1	...	...	7
1889	...	...	2	...	...	...	...	2
1890	...	...	...	18	8	...	...	26
1891	...	...	4	24	6	4	1	39
1893	...	...	1	...	...	...	...	1
1895	...	...	...	15	8	1	...	24
1896	...	...	...	6	12	3	...	21
Total	2	5	31	115	152	68	17	390

This table shows the three months, August, September, and October, as the time of greatest prevalence of cholera. Cases, however, have been admitted as early as May, and none later than November.

TABLE IV.

Mortality of Nationalities of which more than 10 Cases were admitted.

NATIONALITY.	NO. OF CASES.	RECOVERED.	DIED.	MORTALITY.
Irish	31	7	24	77 per cent.
Japanese	16	4	12	70 „
American	30	10	20	66 „
Scotch	24	9	15	62 „
Norwegian	23	10	13	56 „
English	123	57	66	54 „
Manilamen	12	6	6	50 „
Swedes	19	11	8	42 „
German	24	15	9	37 „
French	48	33	15	31 „

In this table the Irish head the list of nations with the greatest mortality from this disease, while the French and German each exhibit a mortality of less than half that of the Irish. This may to a certain extent be explained by the partiality Irishmen show for intoxication when at liberty and with money in their pockets. The French and German patients were mostly admitted from men-of-war in harbour.

TABLE V.

Mortality of different Stages of the Outbreaks, based on the Number (when sufficient) of Cases admitted each Year.

YEAR.	NO. OF CASES.	1ST QUARTER.		2ND QUARTER.		3RD QUARTER.		4TH QUARTER.	
		Recovered.	Died.	Recovered.	Died.	Recovered.	Died.	Recovered.	Died.
1864	16	2	2	4	...	3	1	2	2
1865	18	1	4	2	2	...	4	5	...
1867	12	2	1	...	3	...	3	2	1
1875	15	1	3	...	4	3	...	2	2
1877	18	2	3	3	1	2	2	1	4
1878	17	2	2	1	3	3	2	1	3
1881	26	2	5	5	1	3	3	4	3
1882	25	3	3	4	2	3	4	3	3
1883	28	1	6	2	5	3	4	2	5
1885	39	6	4	4	6	4	5	2	8
1886	25	1	5	1	5	3	4	3	3
1887	26	3	4	2	4	1	5	2	5
1888	7	...	2	1	1	...	1	...	2
1890	26	3	4	1	5	3	3	2	5
1891	39	6	4	6	4	4	5	2	8
1895	24	4	2	1	5	2	4	3	3
TOTAL	361	39	54	37	51	37	50	36	57
MORTALITY		58 per cent.		58 per cent.		57.5 per cent.		61 per cent.	

This table shows that cholera at Shanghai does not follow the epidemic rule of this disease, viz., that the severity diminishes with the duration—in other words, that more fatal cases occur at the beginning than at the end of an epidemic. The cholera bacillus is probably always present at Shanghai and only requires favourable conditions for its spread. The Chinese habit of cooking everything they swallow (including water in the form of tea), except fruit, accounts both for the limited extent of the annual outbreaks and the time of year they occur.

TABLE VI.

Number of Cases admitted from each Decennial Age Period, with the Mortality for each.

AGE.	NO. OF CASES.	RECOVERED.	DIED.	MORTALITY.
1 to 10	4	1	3	75 per cent.
11 „ 20	26	11	15	58 „
21 „ 30	184	87	97	47 „
31 „ 40	105	42	63	60 „
41 „ 50	53	14	39	74 „
51 „ 60	15	8	7	47 „
61 „ 70	3	...	3	100 „
TOTAL	390	163	227	59 per cent.

Here it is seen that the majority of those attacked were in the prime of life and the mortality was greatest at the extremes of age.

TABLE VII.

Periods on which Death occurred in Fatal Cases, with the Number for each Day of the Disease.

DAY OF DISEASE....	1ST.	2ND.	3RD.	4TH.	5TH.	6TH.	7TH.	8TH.	9TH.	10TH.	14TH.	21ST.	27TH.
No. of Deaths.....	93	65	24	13	8	7	2	4	4	1	4	1	1

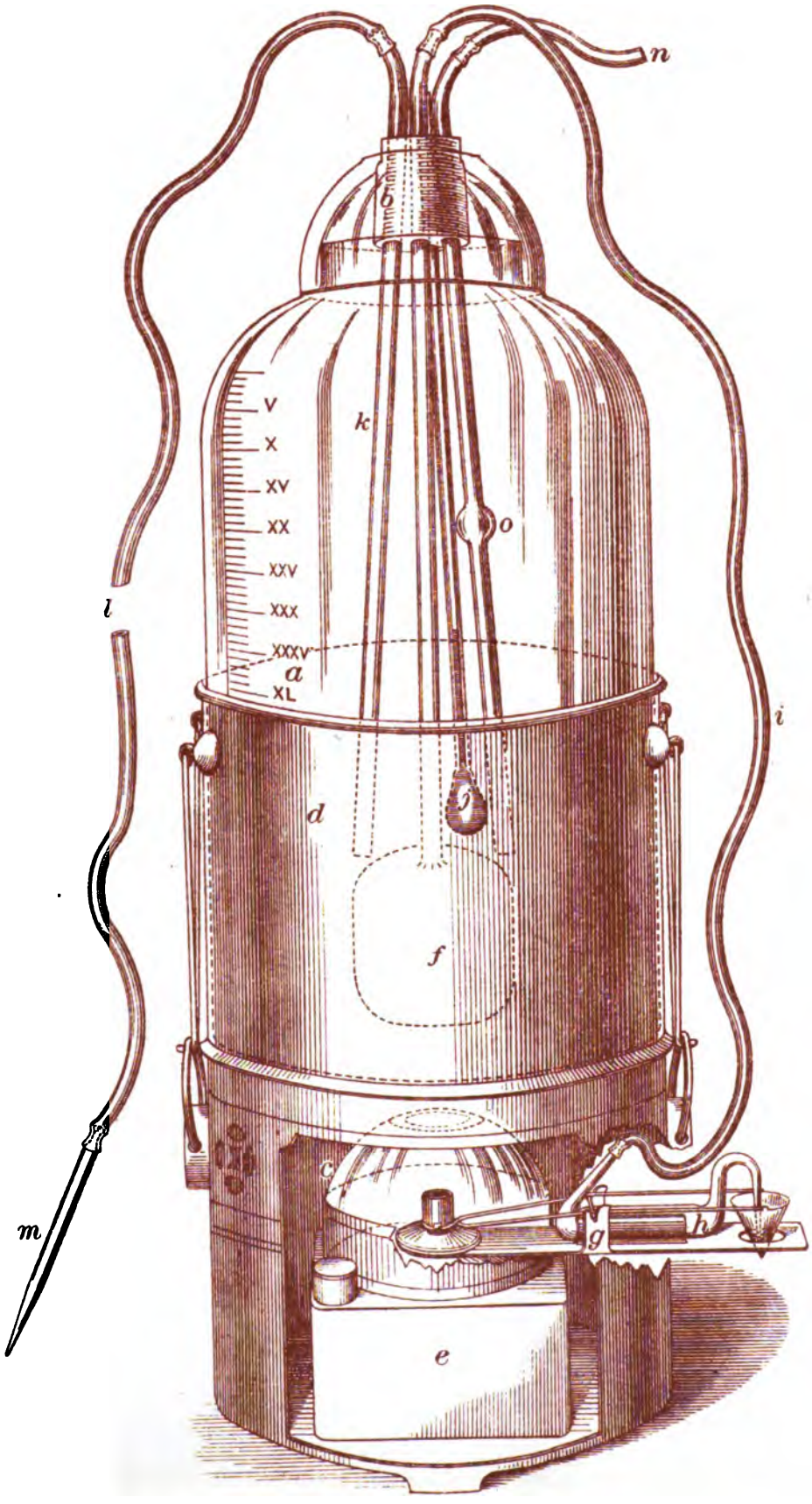
This table shows that 80 per cent. of the total mortality died on or before the 3rd day, *i.e.*, during collapse.

TABLE VIII.

Cases treated by Intravenous Injection during 1896.

CASE.	AGE.	CONDITION BEFORE INJECTION.	INJECTIONS.			CONDITION AFTER INJECTION.	RESULT.	REMARKS.
			Time.	Number.	Quantity.			
1	30	Marked collapse ,, Moribund	1st day, 10 A.M. ,, noon ,, 4 P.M.	1st 2nd 3rd	35 OZ. 35 ,, 80 ,,	All symptoms relieved each time.	Recovery..	Considered hopeless by all. Protracted "typhoid condition." Ulcer of cornea and scarlatinaform rash.
2	30	Cramps most marked	,, 4 P.M.	1st	45 ,,	No cramps	,, ..	Uninterrupted convalescence.
3	20	Quite pulseless; almost voiceless; vomiting; purging; very restless; cramps in legs.	,, 5 P.M. 2nd day, 5 A.M. ,, 4 P.M.	,, 2nd 3rd	40 ,, 40 ,, 80 ,,	Pulse returned and all other symptoms relieved after each.	Death.....	Appeared to be dying before each injection; was very blue and restless throughout.
4	28	Extreme collapse No radial pulse	1st day, 5 P.M. 2nd day, 7 A.M.	1st 2nd	45 ,, 40 ,,	Improvement after first well marked.	,, ...	The second injection was too long delayed; the flow stopped at 40 oz.
5	21	Profound collapse; impossible to keep him in bed.	1st day, 4 P.M.	1st	75 ,,	Wonderfully improved; sleeps all the time.	Recovery..	Uninterrupted convalescence.
6	39	Flickering pulse Severe cramps; vomiting most marked.	,, 8 A.M. ,, noon	1st 2nd	40 ,, 80 ,,	Pulse good; cramps and vomiting gone; no bad symptom.	Death.....	After 24 hours bilious vomiting set in and continued to the end. On the 5th day became delirious and died on the 6th.
7	28	Collapsed; pulseless; vomiting.	,, 10 A.M.	1st	70 ,,	Pulse and voice returned; no vomiting.	Recovery..	Rapid convalescence.
8	29	Severe cramps; very feeble pulse; voice, a faint whisper; very collapsed before last injection.	,, 10 A.M. ,, 1 P.M. ,, 4.30 ,,	1st 2nd 3rd	35 ,, 65 ,, 80 ,,	Marked improvement after each; urinated eight hours after last.	,, ..	Four hours after last injection was quite comfortable. Rapid convalescence.
9	22	Limbs cold; cramps very severe; pulse scarcely perceptible.	,, 10 A.M. 2nd day, 10.30 ,,	1st 2nd	40 ,, 40 ,,	Great improvement after each; urinated six hours after last.	,, ..	Protracted convalescence with ulcer of one cornea.
10	39	Pulseless; vomiting; cramps; purging; laboured respiration.	1st day, 5 A.M. ,, 9.30 ,, ,, 12.15 P.M. ,, 12.15 ,, ,, 12.15 ,, ,, 3.30 ,,	1st 2nd 3rd 4th 5th 6th	50 ,, 65 ,, 15 ,, 15 ,, 20 ,, 160 ,,	Injection obstructed in all but last, when improvement was very marked.	Death.....	History of case already given.
11	22	Whispering voice; ice-cold tongue; cramps in legs; vomiting; sighing respiration.	,, 11.30 A.M. ,, 2 P.M.	1st 2nd	70 ,, 170 ,,	During the second injection all the symptoms disappeared, and there was no recurrence.	Recovery..	,, ,, ,,

Fig. 1.



Since the foregoing was written I have been engaged in the elaboration of an apparatus for the employment of this treatment of cholera—the continuous intravenous infusion of warm saline fluid,—which will supply an unlimited quantity of that fluid at an unvarying temperature to the patient, and will reduce to a minimum the arduous duties of the physician in attendance on him. Thus the chief, if not the only, objection is removed—an objection which is not a trivial one, seeing that with the ordinary apparatus the medical attendant must be constantly present to renew the fluid and maintain its temperature during a period calculated to outlast the collapse—which may be six or more hours—and that at the most trying time of the year and when his services are most needed by his patients.

With the apparatus about to be described it would be quite safe to leave the patient in the charge of any intelligent person, once the process of injection has been satisfactorily started, the presence of the doctor being only necessary in case of an accidental interruption of the flow.

The apparatus * consists of the following parts, as shown in Fig. 1 :—

1. A glass reservoir graduated to 40 oz., with glass cover (*a*) and rubber stopper (*b*).
2. A metal stand consisting of two portions, a chamber for the spirit lamp (*c*) and a water bath for the reservoir (*d*).
3. A heat regulator consisting of a spirit lamp (*e*) with glass shade and support; a glass air chamber (*f*) submerged in the saline fluid of the reservoir; a balance mechanism (*g*) having a collar surrounding the wick of the lamp at one end of the beam and a small bucket containing oil at the other end; this beam is supported on a frame having a hole at either end, into one of which is fitted the burner of the lamp, while a clip in the middle holds a bent glass tube (*h*) containing oil and so placed that one end dips into the oil in the bucket, while to the other end is attached a rubber tube (*i*) to be connected with the air chamber.
4. A spirit thermometer (*j*) fixed in the rubber stopper and dipping into the saline fluid.
5. A delivery tube consisting of a glass tube (*k*) passing through the rubber stopper and into the saline fluid of the reservoir and connected with a rubber tube (*l*) 3 feet in length having at its distal end a glass nozzle (*m*) for insertion into the vein.
6. A supply tube (*n*) consisting of two glass tubes joined by a rubber tube. One of the glass tubes, having about its middle a dilatation (*o*), passes through the rubber stopper into the saline fluid in the reservoir, while the other should pass into a large vessel containing a greater quantity of reserve saline solution, which should be placed on the same level as the smaller reservoir (this latter vessel is not supplied with the outfit described—a 6 or 8 pint glass bottle answers admirably).
7. Three bottles containing respectively spirit for lamp, concentrated saline solution, and oil for heat regulator.

* This apparatus may be obtained from Messrs. MACTAVISH & LEHMANN, Shanghai.

8. A wooden case with directions for use.

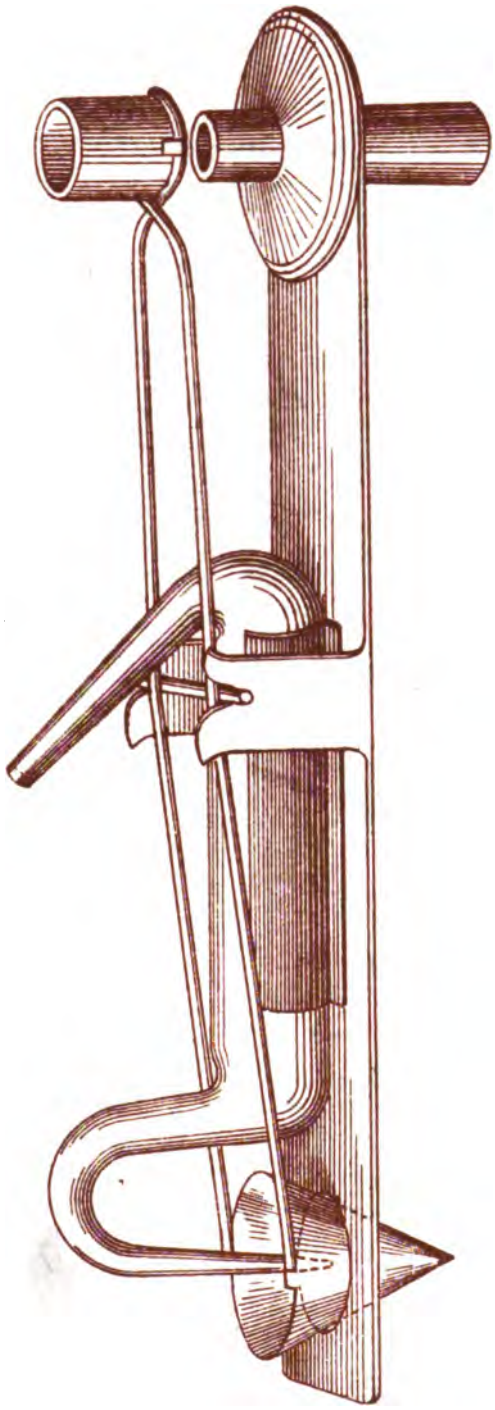
Fig. 2 is an enlarged drawing of the balance mechanism.

Directions for Use.—Fit the parts together as shown in the accompanying drawing (Fig. 1 gives a side view of the balance mechanism for clearness). Put a few ounces of hot water in the water bath; fill the lamp with rectified spirit, the little bucket with oil, and the glass reservoir with saline fluid at a temperature of 110° F.. Trim the wick of the lamp so that it projects only about one-eighth of an inch beyond the collar when it is down, making sure that no part of the wick touches the collar. Detach the rubber tube at the distal end, light the lamp, and test the free movement of the balance regulator and its influence on the size of the flame by sucking and blowing the oil gently from the bucket to the bent tube and *vice versâ*. If the balance turns with about a drop of oil and the flame at its lowest is only a point of blue light (*i.e.*, less than sufficient to maintain the saline fluid in the reservoir at a temperature of 110° F.), then the oil in the bucket and bent tube should be left so distributed as to place the balance in a state of equipoise, when the rubber tube may be again connected to the air chamber and the lamp placed in position. It is then only necessary to establish syphon action between the two reservoirs by exhausting the air in the connecting tube (in doing which a bubble of air should be left in the tube to act as a current indicator when carried into the dilated portion) and by a like action starting the flow from the delivery tube, when the apparatus is ready for use.

The glass nozzle having been inserted into the vein as already described (*vide* page 46), it is manifest that the fluid reaches the vein at the same temperature as that contained in the reservoir less the heat lost by radiation from the tube. This loss of heat varies with the temperature of the air and the velocity of the flow, but under ordinary circumstances it would be about 5° F. As before noted (*vide* page 44), the quantity of the flow is greater at the beginning of the injection than later on. It will therefore be seen that the diminished heat of the fluid on entering the vein, corresponding to the diminished flow, is an advantage when it is remembered that the condition of the patient more urgently needs the greater heat at the beginning—collapse being present—than later, when a temperature nearer the normal only is required.*

* The following extract from *Medical Lectures and Essays*, by Sir GEORGE JOHNSON, may be of interest in this connexion as not only giving support to the value of hot injections in collapse, but also his theory of the cause of collapse as opposed to that generally accepted. On page 128 he says:—"*Explanation of the great temporary Relief resulting from the Injection of Hot Saline Solution into the Veins.*—No theory of collapse can be considered complete which does not give a satisfactory explanation of the great temporary benefit which, in most cases, immediately follows the injection of hot saline solution into the veins. . . . I have adduced many facts and arguments in proof of the position that the essential cause of collapse is an arrest of blood in the lungs, occasioned by a spasmodic contraction of the muscular walls of the pulmonary arteries. If this be the actual cause of collapse, we might, *à priori*, expect that for a time it would be removed by the injection of a hot fluid into the veins. The temperature of the fluid injected by Dr. MACKINTOSH varied from 106° F. to 120° F.; but he states that 'the good effects of the injection were rapid in proportion to the heat of the solution.' The fluid, rapidly mixing with the blood in the right side of the heart and in the pulmonary artery, would, as it were, dilute the poisoned blood and render it less irritating, just as diluents render the urine less irritating to an inflamed bladder or urethra. It is probable, however, that the chief action of the injection would be to relax the spasm of the minute arteries by its high temperature. Thus the impediment to the circulation being overcome, the blood rapidly flows on to the left side of the heart and the arteries, and the phenomena of collapse pass away with marvellous rapidity. The benefit, however, is usually of but short duration; for the primary cause of the impeded circulation—namely, the poisoned condition of the blood—being still in operation, and the original hot solution being cooled down by its diffusion through the entire mass of the circulating blood, the stream of blood through the lungs will soon again be obstructed; and the patient thus passes into a state of collapse as profound as before. It appears, therefore, that the hot saline injection into the veins, and the operation of venesection, when it rapidly relieves, as it often has done, the symptoms of collapse, have this in common, that they facilitate the passage of blood through the lungs, and thus they lessen the embarrassment of the pulmonary circulation, which is the essential cause of choleraic

Fig. 2.



The temperature of the saline fluid in the reservoir is maintained constant by the heat regulator, the action of which is as follows:—When the temperature of the fluid is 110° F. and the beam of the balance is in equilibrium, the air contained in the glass air chamber exercises no action on the oil contained in the bent glass tube. If, however, the heat of the lamp flame raises the temperature of the fluid to above 110° F., the air in the submerged air chamber expands, and in doing so forces some of the oil from the bent tube into the bucket of the balance, which has the effect of depressing that end of the beam and, consequently, of raising the other end with its collar fitting round the flame, the result of which is to lessen the burning surface of the wick and so reduce the size of the flame to such an extent that the heat communicated by it to the saline fluid is less than sufficient to counteract that lost by radiation from the surface of the reservoir. In a little time, in consequence of this, the fluid in the reservoir falls below 110° F., when the air in the submerged air chamber contracts, drawing the oil back again from the bucket to the bent tube, thus causing that end of the balance to rise when the other falls, and it follows that a larger flame is made, which once more restores the saline fluid to a temperature of 110° F. On the other hand, if this temperature be exceeded, the expansion of air in the air chamber quickly drives the oil back into the bucket, thus cutting off the heat supply, and so the saline fluid is reduced to a temperature of 110° F. or a little below. Thus the heat regulator works automatically and, with a full lamp, will need no attention for 36 hours. Its sensitiveness depends on the size of the air chamber. The one here supplied has a capacity of 2 fluid ounces, which gives a range of not more than 1° F. either way from that at which it is set.

By means of the spirit thermometer, which has a constriction to mark 110° F., the temperature can be checked at a glance, thereby obviating the danger of the introduction of foreign bodies, such as dust, etc., by the use of an outside thermometer or when the lid is removed.

The force of the injection can be regulated by the height of the reservoir, which may be fixed at between 2 and 3 feet, measured from the surface of the fluid to the vein. In health the pressure of the blood in the veins is practically *nil* when the body is in the recumbent position. Depression of a limb will increase the blood pressure in all its veins, while elevation, on the other hand, will lower the pressure and make it a minus quantity. In the collapse of cholera the same obtains to a lesser degree, owing to stagnation from the thickening of the blood and the diminished size of the surface veins. When the vein being injected is on the same level as the heart, and the surface of the fluid in the reservoir is 2 feet above this vein, the force of the injection is about one-third that of the arterial blood pressure, and might therefore be considerably increased without danger in health. In collapse, however, the necessity of such considerable increase to obtain a flow would point to clotting of the blood in the vein between the nozzle and the heart, and might possibly result in the dislodgment of this clot. If, therefore, the injection will not flow with a maximum pressure of 3 feet, a vein nearer the heart—the basilic high up, where it is deep-seated and covered by the brachial fascia; the internal saphena

collapse. But, whereas the hot injections act by removing the impediment which results from spasmodic contraction of the arterioles, venesection acts by relieving over-distension of the right cavities of the heart, and thus increasing the contractile power of their walls."

at the saphenous opening of the fascia lata; or even one of the external jugulars—should be chosen, preferably on the opposite side to that already operated upon, as offering the most hopeful means of saving life.

Fig. 3 depicts the complete apparatus in position, the vein injected being the median basilic. The arm is shown duly extended, supported by a poroplastic splint. The method of maintaining the cannula in the vein with rubber adhesive plaster can be readily seen.

The quantity of fluid injected can be ascertained by the markings on the outside of the reservoirs, and the presence or absence of flow at any time by compressing the rubber tube connecting the two reservoirs, when the air bubble contained in the dilated portion of the glass tube will be seen to rise if the injection is running, while it will remain stationary if the flow be stopped.

The duration of the injection may be decided by the "thirst of the veins"—in other words, the flow should be continued so long as it is received. No harm can take place by an unnecessarily long injection, other than a slight local inflammation from the prolonged pressure of the glass cannula in the wound.

In the notes of the case already given (page 43) I mentioned the employment of a glass cannula to regulate the flow to 1 ounce a minute. This I now think unnecessary and would allow the veins themselves to regulate the maximum as well as the minimum flow. The cannulas I have now prepared permit of about 2 ounces a minute to flow when there is no resistance offered, which would give a more speedy relief from the symptoms of collapse once the injection has begun.

The apparatus may be employed either supported from below or from above—standing or swinging. In the latter case the handles of the two compartments of the stand should be unlocked, those of the water bath being turned upward, while a suspending cord, attached at either end to the lower rings, will fit into the notches of the upper handles and thus steady the suspended apparatus.

It may be hardly necessary to point out that familiarity with the working of the apparatus should be acquired before employing it in the treatment of a patient, just as one learns the use of the stomach pump or the aspirator. The small expenditure of time which this entails will be well spent and may not exceed a quarter of an hour in the preparation of the apparatus and an occasional observation during the succeeding 24 or 36 hours.

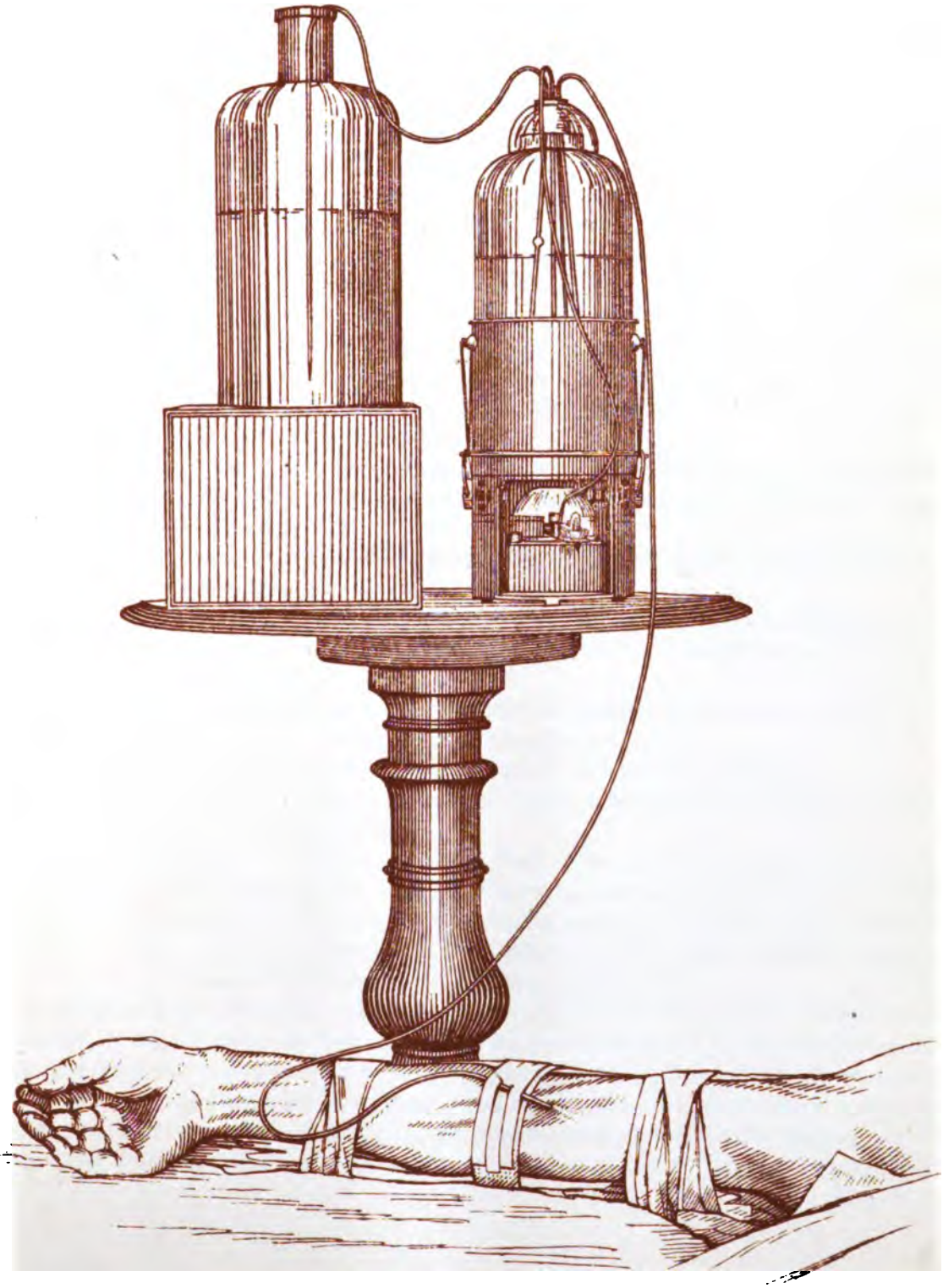
The concentrated saline solution is contained in 3-oz. flasks, the contents of one of which added to 150 oz. of distilled water will make a normal saline solution (*i.e.*, 0.7 per cent.); two or three may be necessary for a single injection. The water, if not distilled, should be first boiled and then passed through a Pasteur or Berkefeld filter, the boiling being necessary to get rid of the absorbed air, part of which released by the heat might otherwise be carried into the vein.

About eight threads torn from a piece of flax lint make an excellent wick for the spirit lamp.

The rubber delivery and supply tubes, when not in use, may be sealed at their ends by cutting a minute portion off with rather blunt scissors if the inside be quite dry.

The glass cannulas may be kept in the spirit bottle, where they will always be clean and aseptic.

Fig. 3



The use of the apparatus above described need not be limited to the treatment of cholera alone; indeed, I believe its employment will open up a new form of treatment for many other diseases and dangerous conditions. Cases which may be thus benefited can be divided into two classes, viz., (*a.*) those in which sudden death is apprehended from shock or failure of any one of the factors of the "tripod of life," and (*b.*) those which consist of inflamed or suppurating cavities; while the corresponding treatment for such may be described as (*a.*) continuous intravenous injection, and (*b.*) continuous local irrigation. Under these latter titles will be enumerated the diseases favourable for the treatment.

Continuous Intravenous Injection.—The majority of the cases likely to happen under this heading require immediate application of the remedy suggested, and therefore it is essential that the apparatus be in readiness for instant use on all occasions in which such a possible emergency might arise; so that it may be only necessary to open the vein and insert the cannula without any loss of time, an operation which can be performed in a few seconds. This treatment need not interfere with the contemporaneous employment of the other recognised methods of resuscitation; for the operation may be performed on the internal saphena vein above the inner malleolus or at its entrance through the saphenous opening, both of which are sites at a distance from the province of ordinary restorative efforts. The apparatus should therefore be at hand ready for use, as follows:—

1°. In all major operations or when chloroform inhalation is used, as affording the greatest safeguard against syncope from hæmorrhage or respiratory failure from the effects of the anæsthetic.

2°. In all forms of excessive hæmorrhage, as from wounds in war, when the bleeding vessels are under control.

3°. In the operation of tapping for ascites, ovarian cyst, or pleuritic effusion, as a safeguard against fatal syncope from the removal of inter-abdominal or inter-thoracic pressure.

4°. In all labour cases, as a safeguard against possible syncope from post-partem hæmorrhage or flooding from placenta prævia.

5°. In the collapse induced by drastic purgation or incessant vomiting.

6°. In the collapse of pernicious malarial fevers, yellow fever, and plague, and from perforation in typhoid fever.

7°. In poisoning by arsenic, antimony, cantharides, hydrocyanic acid, and by all noxious gases, *the continuous injection being combined with venesection* with the object of reducing the quantity of poison in the blood after antidotal and evacuent treatment has been carried out. In uræmia also the combined treatment of injection and blood-letting might be tried.

Continuous Local Irrigation.—For treatment under this heading certain modifications are necessary in the shape of the cannula to suit the part treated and in the composition of the injection fluid, the object in view being to assist nature in her attempts to destroy and expel the source of the disease. The ordinary methods now practised accomplish this, but, to my mind, with unnecessary loss of time. The incision, draining, and occasional washing out of an abscess, for example, is excellent treatment, but I believe it can be improved upon: thus,

by extending the washing out practice to that of a continuous irrigation, the reproduction of the cocci and other micro-organisms may be prevented altogether by the constant removal of themselves and their pabulum, while a fluid hostile to their growth is introduced and maintained in a state of motion, tending still further to their extermination, during the operation of which the healing process is uninterfered with.

Among the diseases which may be thus treated are the following:—

1°. *Abscesses in either Tissues or Organs.*—For the treatment of such the cannula may be improvised in the following way:—Take two rubber tubes of such a size that the smaller will pass within the lumen of the larger and yet allow of a considerable space between them, the smaller being about 1 foot long, and the larger about 2 feet long and of a thickness to fill the sinus of the abscess. If a hole be cut in the side of the larger, sufficient to grip without occluding the smaller tube when passed through it, and at such a distance from one of the ends as to be outside the wound when that is passed into the cavity, the necessary "cannula" will have been fashioned. When in position the fluid directed through the smaller tube will circulate in the abscess cavity and return through the larger tube, carrying with it the matter washed from the abscess, which may be conducted by the 2 feet tube to a vessel placed outside the bed. The "cannula" can be kept in position by rubber plaster.

2°. *Cystitis.*—In this disease a similarly constructed cannula may be employed, using rubber catheters instead of the tubes mentioned.

3°. *Gonorrhœa.*—In the male, a well-oiled catheter of medium size may be passed down to the sphincter and held in position by rubber plaster, the mildly antiseptic injection fluid finding its way back along the outside of the catheter, thus irrigating the surface of the inflamed urethra and carrying away the gonococci.

4°. *Compound Fractures and Compound Dislocations.*—In such continuous irrigation with warm sterilised fluid might be employed, the part being supported by a suitable splint and protected from the air with iodoform gauze.

5°. *Septic Wounds*, whether incised, punctured, lacerated, contused, or gun-shot.

6°. *Otorrhœa*, the "cannula" used being an Eustachian catheter.

7°. *Ozœna* and similar discharges from the facial cavities.

This list could be further extended to include many other diseases, but I think enough have been mentioned to show that the application of this apparatus may have as great a range as any in medicine or surgery.

614.0951

UNIV. OF MICH.
JUL 19 1899

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 30TH SEPTEMBER 1898.

56th Issue.

PUBLISHED BY ORDER OF

From
The Inspector General of Customs.
London

SHANGHAI:

PUBLISHED AT THE STATISTICAL DEPARTMENT OF THE INSPECTORATE GENERAL OF CUSTOMS,

AND SOLD BY

KELLY & WALSH, LIMITED: SHANGHAI, HONGKONG, YOKOHAMA, AND SINGAPORE.

LONDON: P. S. KING & SON, 2 AND 4, GREAT SMITH STREET, WESTMINSTER, S.W.

1899.

[*Price* $1.]

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INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4— * * * * *

I am, etc.,

(Signed) ROBERT HART,
I. G.

THE COMMISSIONERS OF CUSTOMS,—*Newchwang*, *Tientsin*, *Chefoo*, *Hankow*, *Kiukiang*, *Chinkiang*, *Shanghai*, *Ningpo*, *Foochow*, *Amoy*, *Swatow*, and *Canton*.

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DR. D. RANKINE'S REPORT ON THE HEALTH OF ICHANG AND DISTRICT

For the Two and a Half Years ended 30th September 1898.

ICHANG is situated on the left bank of the Yangtze, and the foreign Settlement, which is intersected with native tenements, is below the native city. Hills bound the river on the opposite side and gradually run into the mountains of the gorges at a distance of 4 or 5 miles. To the north-west and south-east extends a long stretch of flat ground, largely used for the cultivation of rice and vegetables. Close to the foreign Settlement is the South Lake (南湖), whose waters rise and fall with the variations in the Yangtze, so much so that at times the greater part of this cultivated ground becomes a sheet of water. This area of paddy fields, interrupted by slight rising grounds, is from 1 to 1½ miles broad and 4 to 5 miles long. Beyond this and back from the river there seems to stretch an endless succession of hills and valleys. The presence of such a belt accounts, in a large degree, for the amount of fever that is in Ichang. Fever is got almost all the year round; I have cases for every month except January and February. It prevails especially in April and May, September and October. The rainy season may be said to begin in April, the hot season lasts during June, July, and August; and though the greatest rainfall may occur in these months, it does not fall as a continuous drizzling rain, but as heavy thunderstorms, which clear the air and produce a sense of coolness. In 1896 during August the rainfall was 13.30 inches, and this, combined with the water from up river, caused the river to rise to 53 feet 4 inches, the greatest height it has attained for many years. It flowed over the bund, drove the natives from the front street, and, receding, left a deposit of 2 or 3 feet of mud. It was feared that an outbreak of fever might be the result, but this did not occur.

During the months June, July, and August the heat is trying, especially in the last two months. During this time—and it will be noticed that in August 1897 the highest recorded temperature is 107° F., in July 1898 109° F.—the residents suffer from a variety of complaints, due, partly, I believe, to the injudicious use of fruit and unwise amount of exercise. Diarrhœa follows as a result of both separately. A sharp walk, taken only when compulsory or for pleasure, will result in diarrhœa; bathing too long prolonged will result in a feeling of absolute limpness, and in some cases lead to inflammation and, it may be, subsequent ulceration of the intestine. To these may be added insomnia, loss of weight, and sunstroke.

We have no "Kuling" just at hand, but we are not without a place which affords a change of air. About 4 or 5 miles up river, immediately below the entrance to the gorge, is San-yu-tung (三游洞). It is picturesquely situated and comparatively free from native intrusion. Two house-boats were lying there the greater part of the summer in a creek, when the water permitted it, and under the shelter of overhanging cliffs, whose shade was secured by

altering the position of the boat. I have been told there is a marked difference in the evening temperature compared with that of Ichang, and residents who have been unable to sleep at Ichang have secured good rest there. It can be reached by land or water. Mention must also be made of P'ing-shan-pa (平善壩), where the Imperial Customs has a station; but it is practically inaccessible during the three months under discussion, owing to the rise and the current of the river. Besides, a house-boat cannot be moved in the high water, to be in the shade of the cliffs, and the sun beating continuously on the roof during the day would make it almost untenable. The houses at Ichang would be preferable. But I do consider it of great value as a place for a change—a sanatorium, forsooth!—during the greater part of the year. The air is bracing and fresh; free from the smells of a native city; free from emanations of superficial deposits of filth; free from the miasma that rises at sunset from the paddy fields. Several patients have been recommended to go there, and the results have been uniformly good.

One may also note that neuralgia, rheumatic pains, and swelling of extremities are common. The first has, in the majority of cases, not proved amenable to treatment. Some certainly improved under quinine when there was a malarial cause; others got better in time, the cure being as mysterious as the cause. The swelling of the extremities I attribute to the general relaxed condition of the system that is induced by the heat.

I have said that diarrhœa is common. It has been brought to my notice that many who otherwise enjoy good health have habitually a soft motion that does not amount to diarrhœa, in the strict sense of the term, either in looseness or frequency. What is the cause of this? Is it due to the water? And here I would suggest that it would be useful, from a therapeutic point of view, if an analysis of the water, quantitative and qualitative, were made at the Customs stations on the river. This would require to be done by a specialist, as, speaking for myself, I have no time nor apparatus, and, I presume, at other ports the Medical Officer has no more time at his disposal. Is it climatic? and would this climatic "unknown" produce in a less healthy and strong individual the condition known as climatic diarrhœa?

Special Cases.—Cases treated during this period included—

Malarial fever, intermittent.	Jaundice.
„ „ remittent.	Diarrhœa.
Typho-malarial.	Dysentery.
Influenza.	Rectitis.
Epidemic (?).	Ulceration of lower bowel.
Mixed fever (?).	Neuralgia.
Variola.	Sunstroke.
Hay fever.	Phthisis.
Laryngitis.	

My introduction to fever cases here was during a visit with the visiting physician to the convent of St. JULIENNE, where one of the sisters had remittent fever. There is no record of the treatment till the 11th day. The convent had had a reputation for illness, and shortly afterwards two sisters fell ill, again with remittent fever; but on this occasion symptoms of sewage gas poisoning manifested themselves. Typhoid symptoms supervened, and the patients,

already in a weakened condition, did not rally and succumbed quickly to the disease. It was thought advisable that an examination of the premises be made. It was found that a cesspool communicated, through the pans of the water-closet, which had no traps, with the kitchen and dining-room; also, by means of pipes through the untrapped pans of a water-closet in the second story, the gas had free entrance to the bedrooms. A report was drawn up, the suggestions embodied therein were adopted, and the general health of the sisters has improved.

The second case was that of a strong and robust man, aged 36 years, who complained of fever and general malaise. His temperature was not very high—102°.8 F.,—but it persisted in remaining up; it, however, fell on increasing the dose of quinine, and with the exhibition of 80 grains in a day cinchonism was not produced.

The third patient was a girl, aged 2¾ years, born in China. I may say in 1897 she had another attack. She was lying in bed, when suddenly she became very ill, gasped for breath, eyes were staring, body convulsed, and lips cyanosed. The temperature in the axilla was 105°.6 F. She was sponged with cold water till a wet pack was got ready. The cold water relieved her, the cheeks became flushed, the breathing easier. The wet pack reduced the temperature, and was repeated as necessary, then quinine given. I considered her condition simply as a manifestation of the malarial fever.

The fourth patient was a female, aged 27 years. I was called at noon and found the temperature 101°.2 F. I delayed treatment. At 3 P.M. the temperature was 103°.8 F.; at 5 P.M., 105°.4 F. It was thought advisable to delay no longer, and quinine was given.

I have several times seen a similar attack in the course of other diseases, which passed off in a few hours.

The most common types of fever amongst the natives are the secondary and tertian, and occasionally a quartan is got. The commonest sequelæ are—

(*a.*) Anæmia—patients complain of headache, palpitation, weakness.

(*b.*) General anasarca.

(*c.*) Peripheral neuritis.

Several chronic malarial conditions have appeared amongst the natives, showing ague-cake spleens reaching forward to the umbilicus and down to the crest of the ilium. One child, aged 2 years, had a markedly enlarged spleen and was subject to frequent attacks of ague.

Influenza.—Influenza has been common. It usually manifests itself by pains in the back; headache; fever, 102°–103° F.; pulse, 110–130. It yields to antipyretics—*e.g.*, phenazonum or phenacetin. Quinine has no effect on the temperature.

Epidemic (?).—In 1897 an epidemic raged here as elsewhere in the Yangtze Valley, and carried off the natives by scores. I did not see any cases amongst them, but I was called one day to the convent to see one of the sisters who was reported to have this disease. I found her lying in a comatose condition, and got a history that such attacks were intermittent. She had lucid intervals, became quite conscious, talked rationally, then suddenly, without warning, she would become unconscious; twitchings of the facial muscles would begin and convulsive movements of the limbs; the lips became cyanosed; she became delirious, then comatose. She was nourished by the mouth and by rectal enemata. Quinine was given in solution per rectum.

One day her temperature suddenly rose to over 105° F. She was comatose. A cold bath was ordered; the temperature fell to 102° F. When the temperature went up, this was repeated in half an hour, and it fell to 101°.5 F. The administration of quinine was continued. The crisis was past and she gradually recovered. For a long time she had symptoms of peripheral neuritis, but these cleared off in time.

Mixed Fever (?).—This seems to be a combination of influenza and malaria, acting upon and modifying the course of each other. The temperature seldom rises above 103°.8 F.; there may be no variation during the course of the day, and in the evening a slight fall. The pulse varies from 110 to 90 per minute. It is not acted on readily, if at all, by antipyretics, and runs a usual course of from three to four weeks.

Dysentery.—Several cases of acute dysentery have been treated amongst foreigners, and almost all have yielded to the saline (sulphate of soda) treatment. It has also proved serviceable in cases of straining with passage of blood and mucus, when the stools were not of the typical dysenteric type. It has failed in some cases, however, in which ipecacuanha gave relief. One case of a baby, about one year old, who had straining with blood and mucus, yielded only to Ringer's treatment, viz., 1 grain of the bichloride of mercury dissolved in half a pint of water, and a teaspoonful given every hour.

Diarrhœa.—One case of diarrhœa only need be mentioned. A lady had recently come from England, where she enjoyed the best of health. When she reached Singapore she was attacked with diarrhœa. She spent some months at different places and got medicines that temporarily checked the disease. On her arrival here she had a recurrence of the disease. Relaxation of the intestinal wall was supposed to be the cause, and a strychnine mixture was administered, with the result that in a week she felt much better and in a fortnight was perfectly well. She kept well for months afterwards.

Inflammation and Ulceration of Lower Bowel.—A male patient, aged 35 years, strong and healthy, suffered from frequency of stools with straining and passage of blood and mucus and shreds of intestinal wall. The cause was looked for in the fact that he had been swimming in fresh water for some hours and had been during that time exposed to the sun. His back was scorched and the skin desquamated. At first the bowel condition was neglected. He was ordered to bed, had an aperient administered, and opium freely exhibited. He was troubled with insomnia; had severe griping pains that led to the desire to go to stool; and complained of pain and tenderness in the region of the sigmoid flexure and, in a less degree, in the right groin in the ileo cæcal region. To induce sleep one night he had a hypodermic injection of $\frac{1}{2}$ grain of sulphate of morphia and $\frac{1}{60}$ grain of sulphate of atropine, followed by 1 drachm of tincture of opium (B. P.), every three hours for three times; and this had no effect. His temperature varied from 98°.6 to 101° F., his pulse usually 120–130. His urine had bile in it, otherwise normal. The bowel was washed out by means of the rectal tube with a weak solution of permanganate of potash. His diet was milk and soda-water. After six weeks' treatment the condition improved—the pains occurred but seldom and the stools were copious but still showed a trace of blood. He was allowed to get up. He kept well for a fortnight, when he had a relapse. He was again kept in bed, the opium treatment resumed, likewise the washing out of the bowel morning and evening. He steadily improved and is now well.

The following table is given to show the loss of weight that may arise through climatic causes. During the months mentioned the patient was under treatment and taking tonics (cod-liver oil, etc.). The patient is 24 years old, and strong and healthy otherwise.

Month.	1897.	1898.
	lb.	lb.
March	142	147
April	137	142
May	131	140
June	129	135
July	124	131
August	120	129
September	118	122 (3rd Sept.) 120 (8th Sept.)

During the period under review the following have been the principal surgical operations performed:—

(1.) For rupture of perinæum, including external and intestinal sphincters of the anus of one year's standing.

(2.) Removal of necrosed shaft of tibia.

(3.) Amputation of penis for epithelioma.

(4.) For perforating stab of right thigh, which missed the femoral artery by a hair's breadth; also large gash in left thigh. The patient (a native) was reported to have lost a pailful and a half of blood before he was brought to me.

(5.) For internal hæmorrhoids.

(6.) For fatty tumours.

(7.) For rupture of abdominal wall and extrusion of intestines.

Case No. 7 occurred in a native about 16 years of age. He was an apprentice in a comprador's shop, and was one morning engaged in taking soda-water bottles from a box 4 feet from the ground. He was standing on a chair and slipped, fell among the bottles, and somehow opened his abdomen, piercing the peritonæum and allowing 1½ feet of bowel to escape. I saw him in the native house about two hours after the accident. The bowel was distended. The boy was chloroformed, the bowel gently washed with a weak antiseptic solution, and an attempt made to replace; but it was found impossible to replace it as it was grasped at the inner opening in the transversalis fascia. The forefinger of the left hand was introduced into the wound, and, with a scalpel resting on this, the wound was enlarged. The bowel was replaced. As I had misunderstood the native who told me of the accident, I had simply a pocket-book and chloroform with me. It was impossible to attempt to wash out the peritoneal cavity, and it was not thought advisable to drain. Three deep stitches (silk), including the whole thickness of the abdominal wall, were put in. On the 2nd day the temperature went up to 100° F.; on the 4th day it was 102°.2 F., and the wound showed signs of redness and fluctuation. The stitches were removed and pus oozed out. No further trouble followed. The wound granulated and healed in five weeks. It seems to me that before this suppuration occurred the wound in the deeper parts had healed, and thus peritonitis was prevented. In this case, it may be further noted, there was no washing out and no drainage used.

(8.) Chronic abscess of the liver.

This case was that of a farmer, aged 40 years, emaciated and jaundiced looking, who came complaining of constant discharge of pus from the right side. It presented the signs of a cavity periodically filling and emptying. He was chloroformed, and a sinus, extending from the eighth to the tenth rib, was laid open. A probe, bent at right angle, found its way into the abscess cavity. A free incision was made in the intercostal space between the eighth and ninth ribs, and several ounces of pus came out. A probe, 5 inches long, just touched the bottom of the cavity and moved freely about in it. A drainage tube was put in for a week, when it was withdrawn and the wound healed up. The patient then returned home and I have heard nothing of him since. The previous history was: a year before he had an enormous swelling over the lower half of the right side. This swelling gradually came to a head and burst, discharging pus freely. Since that time the discharge had been going on more or less.

The accompanying abstract is from the meteorological observations taken at the Custom House.

METEOROLOGICAL TABLE, April 1896 to September 1898.

MONTH.	THERMOMETER.				BAROMETER.		RAINFALL.	
	Highest.	Lowest.	Average Highest.	Average Lowest.	Highest.	Lowest.	No. of Hours.	Quantity.
1896.	°F.	°F.	°F.	°F.	*Inches.*	*Inches.*		*Inches.*
April	97	45	69.5	55.3	30.18	29.45	80.0	4.82
May	95	51	79.4	62.2	30.18	29.57	67.0	4.99
June	100	65	91.0	73.6	29.95	29.50	40.5	3.10
July	102	60	89.6	75.7	29.76	29.50	68.5	5.46
August	105	68	93.3	77.4	29.85	29.50	106.5	13.30
September	92	64	79.4	69.0	30.00	29.62	78.0	4.28
October	82	51	72.2	60.2	30.30	29.88	72.5	2.35
November	84	47	69.0	54.0	30.28	29.83	35.0	1.01
December	68	26	52.9	38.6	30.78	29.85	17.0	0.58
1897.								
January	60	31	45.9	37.0	30.45	29.83	44.5	1.17
February	65	29	49.8	35.5	30.50	29.87	...	...
March	69	36	54.3	43.7	30.34	29.84	123.0	3.58
April	85	41	71.5	54.2	30.21	29.60	83.0	5.56
May	90	53	77.7	63.3	29.97	29.45	118.0	10.58
June	95	64	86.3	72.8	29.90	29.38	45.0	2.50
July	102	68	90.4	75.0	29.75	29.36	101.0	16.92
August	107	71	94.4	77.9	29.85	29.45	61.5	5.52
September	92	62	80.4	68.5	30.13	29.70	136.5	8.04
October	86	55	73.5	60.6	30.30	29.90	73.0	2.37
November	81	37	66.4	50.8	30.40	29.85	49.0	1.88
December	63	29	53.9	35.9	30.57	29.77	7.0	0.11
1898.								
January	60	31	52.4	38.1	30.56	29.83	35.0	1.11
February	70	31	53.8	40.0	30.26	29.64	43.0	1.67
March	85	30	55.5	40.8	30.36	29.59	24.0	0.71
April	94	39	72.2	54.2	30.30	29.51	63.0	3.34
May	94	58	79.3	64.8	29.86	29.30	120.0	6.24
June	101	66	91.2	71.8	29.79	29.14	75.0	8.70
July	109	69	98.0	77.5	29.65	29.28	34.0	7.48
August	106	68	96.9	76.2	29.72	29.34	38.5	5.65
September	100	60	83.3	69.7	29.93	29.56	73.0	7.50

DR. F. T. D. CLINDENING'S REPORT ON THE HEALTH OF KIUKIANG

For the Nine Months ended 30th September 1898.

I ARRIVED at Kiukiang on the 2nd January 1898, and took over the practice of the late Dr. UNDERWOOD, who died in the previous August. Pending my arrival, Dr. TILSLEY, of the Hebron Mission, carried on the practice on behalf of the widow of the late surgeon.

Having had little experience of foreign settlements in China, I cannot personally compare this one with others from a sanitary point of view; but after reading the *Medical Reports*, I think it has many advantages that others lack. The Concession is well and compactly laid out, separated from the Chinese town and suburbs by a high wall, and no Chinese, with the exception of the servants of the hongs and residents, permitted to live within it. Being situated above the Chinese town, the water supply is obtained from the river free of much pollution. The soil and subsoil are porous and, consequently, both the soakage and evaporation rapid. This, I think, accounts for the immunity from malaria (directly contracted in the Concession), which seems to be prevalent in other ports on the Yangtze and elsewhere in China.

The Concession is, unfortunately, completely surrounded on the land side by very filthy Chinese streets and buildings, and the benefits and pleasure to be obtained from walks in the surrounding pleasant country are greatly marred by having to pass through the numerous smells and abhorring sights pertaining to a Chinese town.

The Concession also, unfortunately, lacks efficient drainage, especially at the back. The drains from most of the houses in the back streets emptied into an old pond, which early in the year was reclaimed and filled in for the purpose of building on and making new recreation grounds. These drains, being blocked at one end, are not unlikely to be a source of danger to the health of the Settlement, owing to the accumulation of polluted matter within them. I made a report on this matter to the Municipal Council some time back, and a meeting of the land renters was called, but no further steps have been taken to alter the existing condition. Some few of the houses have no drains at all. This, together with the thinly-built walls, curtailed area of the rooms, bad ventilation, etc., make many of the habitations more or less unhealthy to live in, especially in the summer time.

During the nine months the health of the foreign residents has been very satisfactory. No sickness attributable to climatic or surrounding influence occurred, and a small outbreak of chicken-pox in March and April was the only epidemic.

Three male (one still-born) and two female children were born.

Two of the obstetric cases were exceedingly difficult—one owing to abnormal presentation and large size of the child, the other to repeated hæmorrhages occurring for six weeks before and up to the time of birth. Both cases were instrumental.

Three deaths occurred—one from dysentery, one child from summer diarrhœa, and a quartermaster (from Messrs. JARDINE, MATHESON, & Co.'s steamer) from double pneumonia.

Among other cases treated were—

Double pneumonia in a missionary lady, whose temperature reached 106° F. and whose condition was most critical before medical advice was sought. She made a satisfactory recovery after a protracted illness and convalescence.

Pneumonia, which after recovery was followed by pleurisy, owing to indiscretion during inclement weather.

Acute bronchitis.

Six old standing cases of disease of the ear with perforation of the tympanum.

Nine cases of suppuration in the ear, all being cured without complication.

Rheumatism, one acute and two chronic.

Gout.

Enteric fever, probably contracted in Shanghai, as the patient had only arrived here the day before he was taken ill. It was a mild case with rapid recovery.

Diarrhœa, six cases.

Syphilis.

Gonorrhœa.

Neuralgia.

Malarial fever, two cases, contracted originally elsewhere.

Dyspepsia.

Cystitis and stone in the bladder. The stone was removed at Shanghai by Dr. ZEDELIUS.

Conjunctivitis.

Eczema.

Herniæ, three cases, all reducible.

Sprained knee.

Sunstroke. The patient recovered only after the cessation of the heat, and I think it will be wise for him to move from this port and not risk another summer.

It is unnecessary to speak of the innumerable minor cases which come under treatment.

I can only give a very small report of illness among the Chinese. In addition to an extensive private practice among them, the late surgeon had sole honorary medical charge of the hospital, which is conducted by the French Sisters of Charity; but on my arrival here a new arrangement was made, by which, for a retaining fee, I only attend at the hospital when sent for to those cases which the sisters consider are beyond their skill. I myself would much prefer honorary charge, as under the present conditions (which were insisted on by the sisters themselves) I am unable to see many diseases, give the results of treatment, or undertake any methods of scientific research.

Among the few cases I was called upon to treat were—

Seven cases of opium poisoning with two deaths.

Three cases of frost-bitten gangrene of the lower extremities. In one case the feet dropped off at the ankle-joint, and when the line of demarcation was completely formed, I performed a double amputation of both legs at the junction of the lower and middle thirds, with most satisfactory results. The patient made an uninterrupted recovery, both stumps healed rapidly and were well formed.

Enlarged glands. In several cases removed by operation; many cases of malignant disease generally so far advanced that nothing could be done.

Eight cases of nasal polypi. Removed with snare.

Fracture of humerus.

Fracture of the forearm.

Fracture of the tibia and fibula.

Paracentesis abdominis I performed three times.

Syphilis. This is very common in the surrounding district.

Fever (which, I believe, was much more prevalent and fatal than usual this year), bronchitis, pneumonia, ulcers of all kinds, skin diseases (tinea and scabies predominating), etc., were all treated and cared for by the sisters.

The summer that has just passed has been very prolonged and trying, and, after studying the meteorological records, I think is the longest and driest recorded. It commenced in May and was not finished on the 30th September. The heat of July and early August was dry and healthy, but I can only apply the term "malignant" to the heat of late August and September. In the latter month the thermometer registered up to 100° F. in the true shade, and the daily mean for the month was 89°.1 F., being higher by 3° than any previous record I can find. The temperature of the houses (which are always kept open) in the Concession reached as high as 96° to 98° F. in July and August; but it may be interesting to note that by closing the house during the heat of the day, the temperature can be kept far below this. All the doors, windows, and shutters of our house were closed at 8 o'clock in the morning and opened again about 5 P.M. for the night, and the temperature in our lower rooms never rose above 88° F., and the mean for the two months was 85°.6 F. This may perhaps be a guide to the residents in this and other hot ports.

Most of the ladies and children, and as many of the male element as could get away from business, spent the summer either at the bungalows at the foot of the Lushan Hills or at Kuling, nearer the summit. I, unfortunately, was unable to visit Kuling and judge of its surroundings and climate; but many of my brother professionals, who have made a stay there, report most favourably on it. Nearly 600 people visited it during the summer and made a more or less prolonged stay; and it promises to become the summer resort for the residents of the Yangtze Valley and, possibly, the largest sanatorium in China.

The following is an abstract of the meteorological observations as recorded at the Custom House.

METEOROLOGICAL TABLE, January to September 1898.

MONTH.	THERMOMETER (True Shade).				BAROMETER.		RAINFALL.
	Maximum.		Minimum.		Maximum.	Minimum.	
	Highest.	Lowest.	Highest.	Lowest.			
	° *F.*	° *F.*	° *F.*	° *F.*	*Inches.*	*Inches.*	*Inches.*
January	62.0	42	48	29	30.716	30.042	1.71
February	64.0	44	48	30	30.422	29.742	1.97
March	69.0	38	57	30	30.472	29.782	4.56
April	95.0	55	70	42	30.472	29.718	5.32
May	92.0	63	71	57	30.124	29.540	4.10
June	96.0	75	79	66	29.948	29.517	5.85
July	105.0	81	85	79	29.950	29.702	1.48
August	104.6	85	83	72	29.972	29.434	2.15
September	100.0	73	81	67	30.132	29.780	0.47

NOTE.—The total rainfall from 1st June to 30th September was 9.95 inches—being 4 inches less than any previous record I can find for corresponding periods.

DR. J. A. LYNCH'S REPORT ON THE HEALTH OF CHINKIANG

For the Year ended 30th September 1898.

DURING the very mild winter of 1897–98 there were few cases of illness in the foreign community. One death has to be recorded, in January, from old-standing Bright's disease, complicated with mitral insufficiency. In the same month a case of influenza came under treatment. Though unaccompanied by serious organic lesion of any kind, it ran an exceedingly tedious course. At the end of three months the patient was still in a feeble, listless, anæmic condition. Change of residence to another port brought little improvement; and ultimately a voyage to Europe was found imperative.

In the early spring months there was a good deal of typhus fever among the native population. One foreigner, living in a Chinese quarter, caught the infection and died after 11 days' illness. The usual spring outbreak of small-pox was this year more widespread and of a more virulent type than I have ever known it; and this disease likewise carried off a European victim in the month of May. He was a healthy young man of 25, believed to have gone through a mild attack of variola in infancy (the cicatrices were more suggestive of varicella), on the strength of which he had been assured by a high medical authority that he was perfectly immune, and in no need of vaccination! Although the attack was one of great severity, with continuous high fever and delirium, nourishment was well taken, and every hope was entertained of a favourable issue till the 11th day of the eruption, when he died of heart failure.

Without vaccination, and re-vaccination, nobody in China is secure against small-pox. But the fact of our possessing a preventive so simple, so efficient, and so universally within reach is probably enough to account for its so frequent neglect.

The summer here as elsewhere in North China was excessively hot and dry. A number of residents took refuge in Kuling and other health resorts; but those who remained behind enjoyed, for the most part, a very satisfactory measure of health. The diseases usually so characteristic of this season were remarkable for their absence. Among the most serious affections observed were some intractable cases of boils. In the native city cholera seems to have been completely absent.

September, however, brought a large contingent of malaria and one fatal case of typhoid.

Four births took place during the twelvemonth under review.

For the meteorological record I am indebted to the courtesy of Captain C. H. PALMER, Harbour Master.

METEOROLOGICAL TABLE, October 1897 to September 1898.

MONTH.	BAROMETER.		THERMOMETER.			Rainfall.	TIDES.	
	Highest.	Lowest.	Highest.	Lowest.	Mean.		Highest.	Lowest.
1897.	*Inches.*	*Inches.*	° *F.*	° *F.*	° *F.*	*Inches.*	*Ft. in.*	*Ft. in.*
October	30.37	29.90	77	49	64.6	0.83	17 2	13 8
November	30.56	29.96	78	31	54.0	1.91	15 3	10 3
December	30.72	30.06	59	24	39.0	...	12 4	4 4
1898.								
January	30.69	30.15	53	25	38.6	1.73	7 11	2 5
February	30.42	29.85	57	30	40.9	3.13	9 10	2 0
March	30.52	29.80	64	25	39.7	3.60	9 5	2 10
April	30.51	29.75	89	37	56.4	1.99	10 10	4 5
May	30.15	29.58	83	50	62.5	10.75	13 10	6 1
June	29.97	29.48	94	65	75.3	4.48	14 11	11 1
July	29.95	29.93	100	73	87.0	17.77	16 4	11 5
August	29.96	29.45	95	71	84.9	3.50	16 3	11 3
September	30.15	29.83	92	62	76.0	2.46	16 6	13 1

DR. HERBERT J. HICKIN'S REPORT ON THE HEALTH OF NINGPO

For the Half-year ended 30th September 1898.

THE health of the foreign community has been fair. There have been no deaths and no epidemics.

The summer was long, dry, and healthy; the nights not being excessively hot.

The most prevalent diseases were: intermittent fever, malaria, dysentery of a mild type, diarrhœa, and dyspepsia. The diseases most worthy of comment are the following:—

1.—A case of intermittent fever (yielding readily to quinine), in which the temperature rose to an unusual height—106° F.—and in which the rigors of the cold stage were very severe.

During most attacks a general erythematous eruption appeared at the height of the hot stage, followed by marked œdema of the lower limbs, and ending in desquamation, the skin peeling off in large flakes and scales, and the process not being complete for some weeks after the subsidence of the fever, the palms of the hands being always the last to recover. The urine was examined and found free of all trace of albumen and tube casts. It is well known that quinine may cause an erythematous rash in some persons, and in this case perhaps the high temperature *plus* the quinine was accountable for the rash.

2.—Another case of interest was one of purpura, followed by subacute rheumatic fever. The purpuric spots were extremely abundant over the whole body, but there was no epistaxis and no hæmorrhagic spots on the mucous membrane of the mouth, and there was no hæmatemesis or blood passed by the rectum, but there was well marked hæmaturia. The temperature maintained a steady course of 101°–102° F., and showed no marked variations between the morning and evening readings. The eruption declined in the course of a few days, when the rheumatic aspect became the most marked feature of the case, the pain and swelling of the joints and limbs becoming very much worse.

The case was a tedious one, the patient ultimately going into hospital at Shanghai, where he remained for over six weeks. The total duration of the illness was about two and a half months.

DR. ALFRED HOGG'S REPORT ON THE HEALTH OF WENCHOW

For the Year ended 30th September 1898.

DURING the period under review the health of the foreign community has been, on the whole, very good, with the exception of the end of 1897. There have been fewer cases of illness, and these of a less serious nature.

This summer has been a cool one compared with others, and as we were without the usual heavy rains of May and June, there was very little of the close damp weather so prevalent during these months.

The most distressing event in one's practice was the death of a lady very much esteemed in the community, the result of confinement following on dysenteric diarrhœa.

Medical advice was sought for, about the end of October, for symptoms pointing to proctites and internal hæmorrhoids consequent on pregnancy. Irregular diarrhœa and occasional touches of hæmorrhage persisted in spite of various remedies, gradually increasing in severity till finally they assumed somewhat of a dysenteric character, greatly reducing the patient, so that grave fears were entertained for the result. These were, unhappily, justified by the end of November, when, on the 26th, the patient was prematurely confined and delivered of a male child, who survived for 30 hours. The patient rallied somewhat after the ordeal, but the diarrhœa still continued, and she succumbed on the 29th.

There was one other birth, a healthy male child, the subject being a primipara who came in from an out-station to be confined. The labour was normal and tedious, and necessitated chloroform.

Among the cases treated in the ordinary course of work were as below:—

Amenorrhœa.
Ascarides.
Atonic dyspepsia.
Boils.
Constipation.
Diarrhœa.
Dysmenorrhœa.
Enteritis.
Febricula.
Fracture of clavicle.
Gout.
Hepatic dyspepsia.
Incised wound of palm.
Internal hæmorrhoids.
Iritis.
Laryngitis.
Lupus exedens.
Malarial fever.
Measles.
Otorrhœa.
Ovaritis.
Pregnancy.
Psoriasis.
Renal colic.
Rheumatism.
Sprain of ankle.
Syncope.

During the temporary absence of the writer from the port there occurred a rice riot, but none of the foreigners were molested.

Dr. KIRK, who was in the port for a short time, rendered much assistance in the medical work, and his presence was much appreciated at operations in the hospital.

A large amount of practice amongst the Chinese has been carried on at the Methodist Free Church Hospital and dispensary, involving much minor surgery.

I am indebted to the kindness of the Harbour Master, Mr. KINDBLAD, for the meteorological report appended.

METEOROLOGICAL TABLE, October 1897 to September 1898.

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.	
	Maximum.	Minimum.	Maximum.	Minimum.	No. of Days.	Quantity.
1897.	*Inches.*	*Inches.*	° *F.*	° *F.*		*Inches.*
October	30.384	30.052	82	54	18	5.64
November	30.544	30.100	82	40	5	1.88
December	30.654	30.150	67	33	7	1.26
1898.						
January	30.734	30.130	65	33	9	1.02
February	30.420	29.760	69	36	14	5.01
March	30.460	29.980	75	36	13	3.01
April	30.380	29.700	78	46	16	7.45
May	30.410	29.680	87	56	19	6.89
June	30.050	29.640	90	60	15	7.99
July	30.070	29.800	92	72	5	5.15
August	29.980	29.525	93	71	19	15.22
September	30.130	29.800	92	69	11	4.96

DR. RODERICK J. J. MACDONALD'S REPORT ON THE HEALTH OF WUCHOW

For the Fourteen Months ended 30th September 1898.

SINCE the opening of the port—4th June 1897—the general health of the foreign community has been satisfactory, although we have been temporarily quartered in temples, boats, wooden hut, gospel halls, shops, and native houses in almost every part of the town and neighbourhood.

RESIDENCES.

Native houses, shops, and gospel halls, from the contiguity of overcrowded Chinese tenements, form a dangerous class of residences. The rest are healthy in proportion as they are removed from malarial swamps and polluted soil.

Temples as Residences.—The temples situated on slopes, even if well drained, would be insufficiently ventilated, owing to the hills at the back. Their porous brick flooring is no adequate protection if the drainage be in any degree defective. The shallow lakes in front, more especially of the Consulate, in the dry season are transformed into fetid black mudflats, very hurtful to health.*

Boats as Residences.—Boats are, theoretically, healthy residences, provided that the bilge be not allowed to accumulate and become foul and that they be anchored in a clean neighbourhood. They are uncomfortably small for bachelors and quite unsuitable for a family. The space on board a boat does not permit the amount of in-door exercise usual in a house ashore, and out-of-door exercise is not always obtainable. In the cold season lack of exercise causes chilliness. The cracks of doors and windows on boats are then pasted up, to exclude the north wind; oil stoves are kept burning. In so confined a space under such conditions the blood suffers from deficient oxygenation. An attack of jaundice seemed partly due to this cause. Again, during the sudden squalls which frequently occur in summer, the southerly winds blowing across the wide river raise waves which violently rock the boat. One child thus suffered two attacks of sea-sickness, and, because boat life disagreed with him, was sent back to Canton.

The boats are anchored near the shore, and not always in the cleanest neighbourhood. When northerly winds blow across the town and its refuse heaps accumulated on the river banks, wind-borne disease is liable to occur on boats, for the intervening strip of water, were it pure, is not of sufficient extent to absorb many germs. The floating population and town drainage pollute the littoral water and render it less effective as a wind-purifying agent. To anchor at a sanitarily safe distance off shore is impracticable, owing, among other reasons, to

* Natives say that 10,000 corpses were flung into this lake in the 7th year of the Emperor HSIEN FÊNG.

the risk of night collisions between rafts and boats. During the north-eastern monsoon the precaution might be taken to anchor boats used as residences either above the city or further below it. At that time of the year the river flows less rapidly, and the journey between the office and temporary floating residence might be made with but little loss of time.

Wooden Hut.—In the country three occupants of a wooden hut, supported on posts 6 feet above the ground, enjoyed a complete immunity from malarial fevers, to which they had been very subject elsewhere. A mild attack of dysentery in the child drew attention to a defective drain, which being remedied, no other case of dysentery occurred in the household.

Gospel Halls as Residences.—Mr. R. died of confluent small-pox in his house over a preaching-hall inside the city, near the south gate, and was buried, in imitation of the native mode of sepulture, upon a hill just outside the north wall. Small-pox occurred in a house opposite his just before Mr. R. developed the disease. He believed in faith-healing.

Mrs. C.'s health was so seriously undermined by a six months' residence over a gospel hall in the south-eastern suburbs that both she and her husband have left the town and are not expected to return.

Native Houses and Shops as Residences.—Foreigners who live in native houses and shops instinctively prefer the upper stories, and escape much sickness to which natives living on the ground floor are liable. They must expect annual attacks of fever so long as they live in "Chinatown." Their health probably deteriorates in proportion to the length of time spent in-doors breathing the native-house atmosphere. During the period under review, amongst the missionaries, two unmarried ladies and two married couples have left Wuchow, owing to avoidable illnesses contracted by occupying unhealthy houses. The responsible executives apparently prefer to lose valuable agents and, with unnecessary frequency, to pay return passage moneys, rather than, in the first instance, to exercise forethought and expend a little extra in order to secure pure air and healthy houses for all their agents.

Opinion upon the question of the possibility of the acclimatisation of Europeans in tropical countries, which has recently received some attention in England (see *British Medical Journal*, 30th April 1898, p. 1,167 *et seq.*), has been unfavourably influenced, owing, partly, to the mistakes which have been made in the choice of localities and residences. For instance, decent people, reared in healthy homes, are so infatuated as to attempt to live in the tropics, in Wuchow, in such slums as nothing, possibly, could induce them to reside in at home. Probably the friends of those who have returned to their native land shattered in health will mistakenly attribute to the tropical climate evils which are largely the result of living in slums. Europeans can never be expected to acclimatise either on malarial plains or in Oriental slums in the tropics. I believe, however, that there are large tracts within the tropics where Europeans might readily acclimatise—*e.g.*, the mountainous country in Kwangtung and Kwangsi, in the vicinity of the noble West River. Whilst our people in the town are, I am afraid, absorbing the seeds of fell diseases, which are destined to entail a long train of subsequent troubles, but a couple of bowshots from the city, just across the Cassia River, the balmy breezes of the hill country invite them to live in a pure and healthy air, where children might have rosy cheeks the whole year round. Granted houses on the hilltops, and I am confident that Europeans might enjoy robust health at Wuchow.

Hilltops most suitable for Residences.—The Chinese city, like all I have ever seen or heard of in Cathay, is an overcrowded, unsanitary slum, in which it would be futile for Europeans to attempt to retain health and utter folly to attempt to rear their families. Wuchow suburbs are all liable to floods, the river having an extreme rise and fall of about 75 feet. In this whole neighbourhood the hills approach so closely to the river that along its banks, except where the city stands, there is hardly any available building land not liable to floods. Flooded tracts are unsuitable sites for Europeans' dwellings. There remain then for consideration the hill sites. These may be divided into two classes—those which I choose to style Chinese temple sites and hilltop sites. Temples in this part of the world are frequently (*a*) perched on precipitous hillsides, and (*b*) closely embowered amidst trees in mountain valleys. When placed on the hillside the inner chamber of the temple is, in some instances, partially excavated in the rock, the semi-troglodyte Buddhist priest clinging tenaciously to prehistoric habits. Such a site is unsuitable for a residence. In order to avoid the expense of quarrying an extensive site on the precipitous hillside, the premises would probably be constructed on too contracted a scale. Ventilation would be restricted whenever the wind happened to be behind the hill; the back rooms would be oppressively hot at night, the heat absorbed by the rock during the day being radiated upon the house by night.

The mountain-valley site is objectionable, not only on account of imperfect ventilation but also on account of the risk of miasm, generated in lower paddy land in every valley hereabout, in certain states of the wind creeping upwards and immersing the house in its baneful atmosphere. Efficient ventilation is the safeguard, and is, moreover, essential to the comfort of Europeans living at only moderate elevations in the tropics. For when there is any breeze a European lightly clad feels comfortable, though the thermometer be near 90° F.; when the breeze dies, he droops. Practically, on our hilltops there is a continual breeze; and in houses built there I suppose the thermometer would seldom or never reach 90° F. in the shade. Blankets would be necessary, even in the height of summer; mosquitoes rarely seen; punkahs superfluous. Within their houses the comfort of foreigners would be complete.

The Western Hills superior to all others as Sites.—To attain hilltop sites on the southern range, one must ascend to a higher elevation, where mist more frequently rests. The river, three-quarters of a mile wide, and a long hill climb would intervene between business offices and residences. The eastern hills, of moderate altitude, will afford hilltop sites for two or three houses after a sum of money has been expended in levelling. In that direction few walks are to be had. But across the Fu River there are the western hills, of moderate elevation—400 feet, some higher, some lower,—two of which have been already partially levelled for encampments, sufficient for all present requirements of the foreign community; whose plateaux are wind-swept whichever way the wind blows; where mist is seldom seen to rest; whence are obtained bird's-eye views of the whole city and harbour and of long reaches of the West and Fu Rivers and picturesque mountain ranges; and in whose vicinity are extensive walks. The British Consulate is to be built there, and also, I trust, the Commissioner's residence. In the interests of the health and comfort of the Customs staff, I would respectfully urge that the building of houses on hilltops for them be commenced forthwith.

Food Supply.

Milk.—A small dairy was opened at the beginning of October 1897 with a couple of Hongkong cows. The dairy is located in a dwelling-house in the river-side street, eastern suburbs. The cowshed is plank-floored, raised on posts over the river bank. By this accident, rather than by design, tolerably free ventilation is obtained. The rinderpest, which wrought havoc in the dairies of Canton and Hongkong, did not appear in this dairy. The drainage of the dairy flows through the crevices of the plank flooring on to the mud bank below. The dairyman pleads poverty as the reason why he neither concretes the mud bank nor removes to properly constructed premises in the country suitable for the business.

Examination of a Sample of the Milk as supplied to Customers, 10th August 1898.—The milk is put up in old beer bottles badly corked. Morning milk examined at 8 A.M.; thermometer standing at 81° F. Reaction: neutral. Specific gravity: 1010 (normal specific gravity: 1032). Weight of 100 c.c. sample: 98.63 grammes. Cream in 100 c.c. is 8.5 c.c. (normal: 11–13). Total solids in 100 c.c.: 6.68 grammes (normal: 11.5 grammes). Specific gravity after filtration also 1010.

There are in 100 c.c. of the sample, judging by the contained—	Per-centage of Milk.	Per-centage of Water.	Total.
Cream	65.3	34.7	100
Solids	58.0	42.0	100
And by the specific gravity	Less than 50.0	More than 50.0	100

These results all point to the conclusion that the milk has been diluted with a very large per-centage of water. It is said to be a mixture of milk, buffalo milk, and water.

Chemically, the sample was tested for starch, but none found in it. Microscopically, oil globules and scattered epithelial cells—normal constituents; some bacilli and micrococci, probably introduced with the admixed water; no blood or pus cells, no lacteal casts, no tubercle bacilli: the cows are therefore healthy; no starch grains.

This milk should be boiled before use. Price: 12 bottles, each containing 12 ounces, cost $1.

Meat.—In December 1897 the local magistrate granted a butcher permission to kill one cow daily, free of taxation, for the supply of the Europeans at the port. A temporary butchery was constructed, having an imperfectly-laid concrete floor and a surface drain or two. The neighbourhood is pretty fair for China; it is the outskirts of a suburb, but there are filthy dwellings and latrines close by. The butcher, when urged to construct premises suitable for the business, pleads poverty. Kwangsi cows, in herds of about 30 at a time, are brought in boat from Kwaip'ing, and, being allowed to graze on shore at intervals *en route*, usually arrive in good condition.

Complaints have reached me from time to time that diseased cows and ponies were being killed for food. One man avers that he has sold six sickly cows to the butcher. The meat is also said to be sometimes rendered heavier by the injection of water (impure) through an incision in the left ventricle of the heart. That supplied to me has sometimes been unfit for food. Buffalo flesh is substituted for beef. Price: the meat is sold to us at 10 cents a catty.

Inspection of Meat and Milk.—The slaughter-house is distant about a couple of miles from my house, and, as the meat is killed at 5 A.M., I have not found it practicable to attempt thorough inspection. From time to time I have visited both dairy and butchery, but confess that such inspection is almost valueless. Seeing that good meat and pure milk are necessary to the health of consumers, and that the existing supply of these two articles is altogether unsatisfactory, I recommend, if it be at all feasible, that the foreign community construct its own butchery and dairy, lease the premises, and obtain thorough inspection.

Water.—The sources of water used for drinking purposes here are the West River, the Fu River, the rainfall, the *Ping Tsing* and other wells, springs, and Hongkong water from ships. No complete examination of these various waters has yet been made here. In the opinion of the natives the water of the *Ping Tsing* (冰井) (Icy Well) is the best in Wuchow. It is the well from which the British Consul's and the Commissioner's supply is drawn.

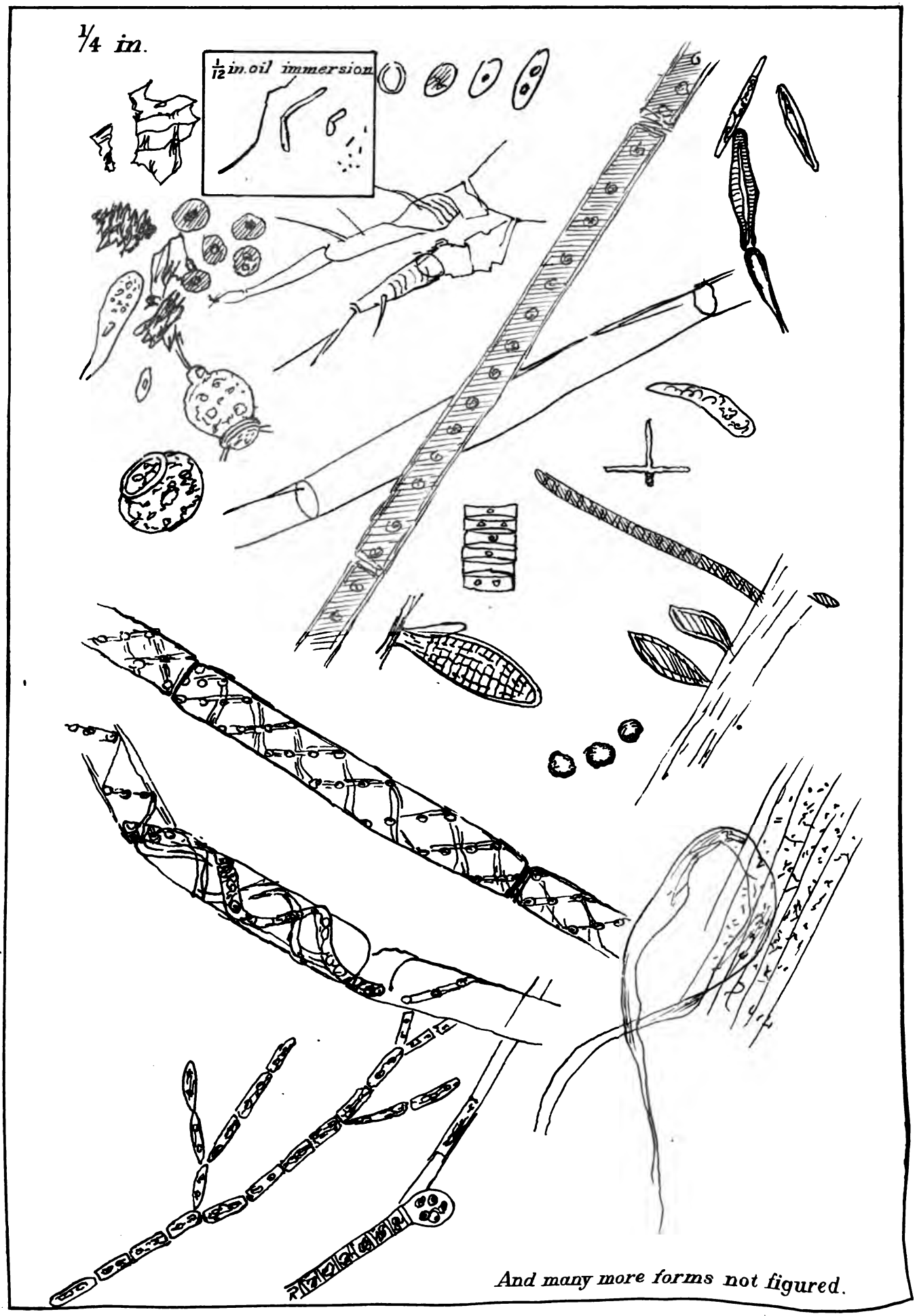
Examination of Icy Well (冰井) *Water, 28th July* 1898.—Colour: clear. Smell: none; on heating, none. Floating particles after subsidence: few. Nessler's test: no brown or yellow precipitate, therefore no ammonia; no milky precipitate, therefore water not hard. Nitrites: H_2SO_4, KI, starch; no blue tint, therefore none. Nitrates (Horsley's test): no reaction, therefore none. Chlorides = .5 grain per gallon.

Mineral matter: sand; vegetable products: cotton fibres, woody fibre; animal products: portions of dead insects; bacteria, bacillus ulna, B. subtilis, oscillatoria autumnalis, siphonaceæ, confervaceæ, diatomaceæ, stauroneis acuta, frustulia saxonica, ciliata, rotifera, etc., show that the water of this famous well is in character like a diluted pond water. The bacteria have not been quantitatively determined, but, from general considerations, may be expected to be numerous. Plate cultivations would also probably reveal virulent forms of pathogenic organisms, such as Eberth's bacillus or Koch's spirillum, seeing that typhoid and cholera occur in the town.

The well is not cement lined. Within a few yards passes a brook, the effluent of paddy fields cultivated with sewage, which has opportunity of finding access to the well. The water which fills its deep-seated spring has percolated through the soil of a hill which is used as a burying ground. A cartoon of this well would illustrate the reckless indifference of the authorities to the health of the township. It would picture a shower falling upon a hillside, seen in section, the water flowing through a broken coffin into the Icy Well; in the plain, an agriculturalist ladling sewage upon the fields, and an effluent from the fields trickling into the well; a stream of people descending to draw water, wash their feet and dirty buckets in the well. Most of the water is boiled before use, by which means evil consequences are usually avoided; sometimes the boiling is only partial: the cycle is then completed by picturing a sick-chamber, with cholera or typhoid patient dying from the effects of using unboiled Icy Well water, and, subsequently, a funeral procession proceeding to bury the diseased corpse in the Icy Well hill.

For a complete examination of the valuable supplies of water in the West and Fu Rivers, it would be advisable to enlist the services of an expert. There is a marked difference in the appearance of the two rivers: the water of the West River is muddy; that of the Fu River beautifully clear.

MICROSCOPIC EXAMINATION.



The obvious lesson to be drawn from any consideration of the water supplies of Wuchow is that, whatever its source, all water should be thoroughly boiled and filtered before being used for drinking purposes.

Cemetery.

As yet the foreign community has no cemetery.

State of the Town.

Execrable! The following comments are offered with an apology for broaching distasteful subjects.

Streets.—The streets are not wide enough for the traffic. The public comfort and convenience are not sufficiently consulted. When the people are marketing, before the two principal meals of the day, pedestrians are obliged to proceed at snail's pace through the streets, and must submit to be jostled by an unwashed crowd, whose homes and garments without doubt harbour infectious disease.

The narrow streets are further encroached on by tradesmen's stalls. No option has the sensitive individual: he must see butcher's meat, blood, and offal at close quarters each time he walks the street, for these things are thrust under his very nose. Possibly ladies are secluded because the streets are not fit for them to walk in; or, *vice versâ*, possibly the streets are filthy because ladies are secluded. Fish tails are purposely allowed to drip over the edge of the stall, where passengers' clothing may be soiled by them. The washings from the stalls drain on to the pavement and must perforce be stepped in. Flies assiduously make trips between the garbage in the gutter and the food exposed upon the stall. It disgusts one to think that food for the table passes through this filthy market.

Pigs are turned into the streets to pick up a living by feeding upon offal. These loathsome scavengers are afterwards sold for food. Tænia solium, if not trichiniasis, is said to abound. Occasionally a pig dies in the street and is allowed to lie there until the air is polluted with the gases of decomposition. Slops are suddenly pitched out of open doorways, and even sometimes from upper windows, upon the passengers in the street. The streets are unevenly paved with large ill-fitting stones. Loose blocks may conceal puddles, and when stepped on may squirt liquid filth over the unwary pedestrian's dress. This is not, as might be supposed, a gamin's practical joke: it is simply due to neglect. During heavy rain and in flood time many streets are transformed into open sewers; to save their shoes most people then go bare-foot. Splinters and potsherds lurking at the bottom of these inky streams—more poisonous than the River Styx—wound and inoculate the wader's feet. Ulceration, septicæmia, glandular enlargements, perforating ulcer, and leprosy, perhaps also bubonic plague and other filth diseases, are sometimes acquired in this way.

Street Drains.—These are rudimentary, open drains. They are defective in every respect—neither keeping the pathway dry nor preventing drainage from soaking into the subsoil. There is no uniformity of plan in construction: some are unlined, some lined with broken brick, few having mortar or cement. Most are stopped up by silt; all are broken, dirty, and dangerous. From them may be inferred the condition of the covered drains.

Public Latrines.—These are an abomination. Decency, cleanliness, and health are all sacrificed by gross carelessness and false economy. The ninth precept of the *Sacred Edict* is broken and the fifth too strictly observed.* Although the question of public morals is almost outside the scope of a report on the public health, yet the two subjects are not unrelated; and it may be permissible to point out that the government, whose professed duty it is to instruct the people in morality, by neglecting the public latrines, loses an excellent opportunity of simultaneously improving the public health and morals. How can a people's language be expected to be polite who daily frequent such filthy places? How can the girls preserve modesty who are obliged to see into all the ramshackle public latrines? Does any mother who cares for her children enjoy living in proximity to a Wuchow latrine? Would MENCIUS' mother have lived near such vile places? Simply for lack of thought, and by reason of the dread of spending a few dollars usefully in reconstructing and daily cleaning the public latrines, 40,000 townsfolk are scandalised, demoralised, and diseased.

The Public Latrines Foci of Disease.—The excreta are allowed to fall into badly-constructed pits, which are neither regularly nor frequently cleaned, or into ponds, to become food for carp and tench, which are reared for the table, and the latter habitually eaten raw; or the dejecta fall upon the ground and the pulverised excrementitious matter is wind-borne throughout the town. Food is plentifully besprinkled with it. If Dr. COBBOLD'S opinion, that ascaris lumbricoides requires no intermediate host, is correct, the state of the public latrines sufficiently accounts for the almost universal presence of ascarides in Chinese youth. Typhoid, dysentery, and cholera are also doubtless disseminated from these foci of disease. The hand-carriage system of removal of sewage may be, in theory, suitable for a native town; as practised here, however, it constitutes a public nuisance, because entirely unregulated.

Disposal of Rubbish.—Rubbish is dumped on river banks and waste plots. Thence it is re-distributed to the town by aerial agency. In flood time some of it is washed into the river. It is another instance of the prevailing neglect.

Disposal of the Dead.—The dead are buried upon every hill in such fashion as to spoil every landscape and foul every spring of water in the neighbourhood. In defiance of Chinese law, possibly by order of ignorant officials, during the recent rebellion the waters of the West River were defiled with 70 floating corpses at Wuchow. It is remarkable that the Chinese esteem it a breach of decorum to mention "death," yet allow it to be signed in every direction on scarred hillsides and country roadsides, by ugly mounds, exposed urns, unburied and broken coffins, and strewn human bones. Also, that whilst attaching greatest importance to wind and water, *fêng-shui* geomancers, by vicious advice, foul both the wind and the water with the corpses of the dead. In spite of the law,† itself not strict enough, which forbids keeping a corpse unburied longer than three months, by geomancers' advice the dead are sometimes kept in

* Ninth: 明倫禮節, 讓儉以惜財, 厚風俗以用, Illustrate the principles of a polite and yielding carriage in order to improve manners. Fifth: 倘, Hold economy in estimation in order to prevent the lavish waste of money.

十 喪葬職官
庶民三月而葬
凡有喪之家必須依禮定限安葬若惑於風水及托故停柩在家經年暴露不葬者杖八十
中者杖一百
大清律例新增統纂集成卷十六

their coffins amongst the living in dwelling-houses for months, or it may be years, beyond the prescribed limit. The whole community suffers through the depraved habits of degraded neighbours who act thus. Whilst I write a patient of mine is lying ill of fever in a house, next door to which is an unburied coffin containing a corpse several months old. China is disgraced before the whole world, owing to the total neglect of sanitation, more especially in the open ports where foreigners reside and observe. Is it not high time to initiate elementary sanitary reforms in the open ports?

Houses.—The houses are ill ventilated. An Irishman might safely say of most of them that the front and back doors are the only windows they possess. They are dark, damp, and dirty. The floor is often formed of beaten earth only. Phthisis appears to be rapidly on the increase in South China. It may be explained by the fact that phthisical patients expectorate upon the floor, and involve the other inmates of such houses as are described above in the same hopeless case.

Birth and Death Rate.—Unknown! The "parental" mandarins confess that they take no account of the births and deaths in this town.

Precaution against Fire.—In addition to the usual pattern of hand fire-engine and large tubs of water standing in some of the streets, an engine-house has recently been built by the side of the shallow lake opposite the British Consulate. Leaking pipes have been laid in mud throughout the wealthier part of the suburbs. Muddy water can thus be pumped into some streets. The pumping plant, in spite of its faults, demonstrates the existence of a nascent public spirit initiating public works which, when developed, will renovate the town.

Town Water.—This prime natural necessary is laboriously and expensively drawn in buckets from fouled wells and the defiled liquid at the river's brink. Much is lost in transport. The streets near the river are always sloppy with spilled water. Shop hands draw for the shops. In "good" houses the duty of fetching water devolves on slave girls, who may be seen staggering under the heavy burden up 50 feet of slippery river bank. Middle-class houses buy water, according to distance from source, at 3, 4, or 6 cash per load of 60, 75, or 120 catties.

Cost of the Town Water.—Estimating the population at 40,000, the quantity of water used at 5 gallons per head per diem, and the price of water at 4 cash for 10 gallons, the town pays $29,200 per annum for 200,000 gallons per diem of bad water. Taking Mr. HAWSLEY'S estimate of the cost of town water at home, viz., £12,000 per annum for 1,000,000 gallons per diem, it appears that, by adopting the European methods of water supply, the town may obtain good water and more of it for the same money, viz., 243,333 gallons per diem for $29,200 per annum.

Washing and Bathing.—Children occasionally bathe in the river. There are no public baths. Is it their fault if the people are dirty; if their queues are full of pediculi and their persons covered with scabies and tinea? Their wretched condition is recognised in the native proverb, "Eleven men out of every ten have the itch."

Recreation, etc.—There are no public parks, libraries, nor museums. The state of the country paths is so bad that none of the townsmen seem tempted to walk in the country

for health and enjoyment. The pleasures of bicycling, of ricsha rides, and carriage drives are unknown. Horse exercise appears to be confined to military students, about examination time, and inferior officials. The bridge which formerly gave easy access to the country has been allowed to decay and disappear. There is not a sufficient sense of security outside the city walls to permit of tradesmen building houses in beautiful country spots.

This is a joyless town. Melancholy is emphasised by the custom of public wailing. The frequent sound of weeping at the graves, and long nights rendered sleepless by midnight services for the dead, tend to deepen the prevailing gloom. I believe the sufferings of the sick of whole neighbourhoods are aggravated by sleeplessness, caused by noisy midnight services, and that many sick people are frightened to death by shouting, cracker-firing, cymbal-clashing, and drum-beating on the part of the priests, and the loud wailing of the whole household at the crises of disease.

Ignorant priests oppose a serious obstacle to sanitary reform, by receiving and wasting money in the useless idol processions, for instance, organised by them as a means of driving away plague, instead of teaching the people to cleanse the town.

The people are not fond of reading; they attend no stimulating public meetings; they are profoundly ignorant and without resources. This is one cause of the opium habit. The monotony of existence seems to depress their vitality, predispose them to disease, and render them comparatively indifferent to life. In sickness they do not know what careful nursing is. In wealthy houses there are any number of nurses and attendants, none of whom understand nursing. When seriously ill, the poor are liable to collapse suddenly, without making any brave fight for life; the rich frequently change their doctors and medical treatment every two hours, and probably the end is often hastened by excessive medication under this *régime*. Government is responsible for the fact that all the doctors are quacks, and patients are unable to repose confidence in them. There is no school of medicine in Kwangsi, and the doctors are neither examined nor trained.

Wuchow's Needs.

To sum up, Wuchow needs progressive mandarins, who will favour a comprehensive programme of reform, including—

(*a.*) The relaying of all streets with concrete.
(*b.*) The repair of all drains.
(*c.*) A constant service of good water, drawn from the Fu River several miles above the city.
(*d.*) The regulation of public latrines and of the removal of night-soil and rubbish.
(*e.*) The banishment of pigs from the streets.
(*f.*) Annual returns of births and deaths.
(*g.*) The construction of cemeteries and prohibition of burial outside cemeteries, and prohibition of household corpse-hoarding.
(*h.*) The opening of public baths, parks, libraries, and museums.

(*i.*) Restoration of the bridge, and making of wide macadamised country roads.

(*j.*) The establishment of a school of medicine; examination and registration of medical practitioners; a training institute for midwives and nurses.

etc., etc., etc.

Native Hospital.—Since the opening of the port the Hospital of Extensive Benevolence (廣仁醫院), having accommodation for 27 in-patients, has been built by native subscriptions at a cost of about $4,000. It is unhealthily situated between a shallow lake and steep hillside. The wards are small, square chambers, without windows, like prison cells. The handsome porch and spacious hall for board meetings do not compensate for the defects of the most essential parts of the structure. The hospital is not yet open. In-patients will be allowed the option of being attended by the staff or by other practitioners employed by themselves.

No Foreign Hospital.—There is no hospital under foreign supervision in Wuchow or even in the Kwangsi province. Four soldiers, who were burned by an explosion of gunpowder on board a riverine guard-boat, were tended under great difficulties in a shop in town. Two of them died there; the other two I removed to a mat shed in the country, where they recovered. The need is beginning to be felt of a small cottage hospital for the accommodation of Europeans. I have made shift to treat two Europeans in the wooden hut which was formerly my dwelling. One, Mr. W., was a case of recent bullet wound. The wound was healing kindly, and patient's temperature just about normal, when he left on the 8th day. The other, Mr. M., was a case of tertian ague, contracted in Hongkong. Treatment on board his ship in harbour was unsatisfactory, the temperature remaining at 105° F. almost the whole day. In the evening, being unable to walk, he was removed by boat and stretcher to the hut. At times he was delirious. After seven days he was able to return to his ship. The treatment was the usual quinine treatment, with antipyrin and ice to reduce hyperpyrexia.

Kwangsi types of tropical diseases have not received much study as yet. Patients are suspicious; facilities are few. A limited view of disease at Wuchow, such as a new and small practice affords, in tabular form, is appended, together with average readings of the Customs meteorological tables, kindly furnished by the Harbour Master.

Tabular Monthly View of Disease at Wuchow, 1st August 1897 to 30th September 1898.

Year.	Month.	I. M. Customs Staff.				
		Foreigners.				Chinese.
		Adults.		Children.	Residence.	
		Male.	Female.			
1897	August	Eczema		Mild malarial fever	Temple	—
	September	Malarial remittent fever.			„	—
	October					Dysentery.
	November	—	—	—	—	—
	December	Ischio-rectal abscess			Boat	—
1898	January	Fever and ague. diarrhœa.			„ pontoon	—
	February	Neuralgia			Pontoon	Typhoid fever.
	March	Fever and ague			Boat	Mucous tumour.
	April		Jaundice		„	—
	May	—	—	—	—	—
	June	Diarrhœa			Pontoon	—
	July					Hæmoptysis, asthma.
	August	—	—	—	—	—
	September	Inflammatory diarrhœa.			Native house	—
		External hæmorrhoids and fissure of anus.			„ „	
		Tonsillitis			Pontoon.	

Year.	Month.	Foreign Residents and Visitors.					
		Merchants, etc.		Missionaries.			
		Adults.	Residence.	Adults.		Children.	Residence.
		Male.		Male.	Female.		
1897	August	—	—	—	—	—	—
	September	Chancroid ulcer...	Shipboard	Malarial remittent.			Boat.
	October	—	—	—	—	—	—
	November	Sprained ankle...	Shipboard.	—	—	—	—
	December	—	—	—	—	—	—
1898	January	—	—	—	—	—	—
	February	Ague	Shop, S.W. suburbs.	Confluent small-pox (death).			Gospel hall in the city.
	March				Neuralgia		Suburbs.
	April				Malarial fever		„
	May	—	—	—	—	—	—
	June	Acute pleurisy...	Shipboard			Ascarides	Wooden hut.
	July	Bullet wound	S.W. suburbs.	—	—	—	—
	August	—	—	—	—	—	—
	September	Tertian ague	Shipboard.	—	—	—	—

Tabular Monthly View of Diseases at Wuchow—*Continued.*

Year.	Month.	Chinese Patients.		
		Male.	Female.	Children.
1897	August	Rheumatic arthritis, tonsillitis, spermatorrhœa, otorrhœa, gonorrhœal rheumatism and malignant pustule.	.....	Malarial fever, ulcers.
	September...	Locomotor, ataxia cataract, phthisis, tinea circinata, tonsillitis, perforating ulcer of foot, tetanus, urethral calculus, hemiplegia, whitlow, asthma, cicatricial contraction of finger.	—	—
	October.....	Phthisis pulmonalis, syphilis, tinea, anæmia, ascites, Bell's paralysis, chronic rheumatism, Bright's disease, calculus, poliomyelitis anterior.	—	—
	November...	Lipoma, herpes, caries of ankle-joint, carbuncle, scrofula, cardiac dropsy.	—	—
	December ...	Phthisis pulmonalis, bruise inflicted by a buffalo.	—	—
1898	January.....	Small-pox, malarial fever, scabies, hæmoptysis, furunculus, strumous cervical glands.	—	—
	February.....	Small-pox, bubo, syphilitic onychia, wen, gunshot wound right hypochondrium, opium habit.	Sword cuts (on temple, hand, and shoulder).	—
	March	Ulcerative stomatitis, hypochondriasis, ulcers, bronchitis, internal hæmorrhoids, dislocation of lumbar vertebræ.	Abscess of hand, epiphora.	Congenital syphilis.
	April	Bubonic plague, phthisis pulmonalis, gunpowder explosion burns.	—	—
	May.....	Bubonic plague, eczema capitis, Eustachian catarrh...	Abscess of foot; tinea.	—
	June	Bubonic plague, ascaris lumbricoides, dental caries, sarcoma of knee, conjunctival ecchymosis.	Glaucoma	Granular lids.
	July	Axe wound of knee, abscess of antrum, fever and ague, postmortem on case of death by bullet wound, chancroid and buboes, phthisis, typhoid, internal hæmorrhoids, ulcer of heel, pterygium.	Rheumatic arthritis.	—
	August	Measles, anæsthetic leprosy, tertian ague, eczema, tinea, asthma, epilepsy, trachoma, palpitation, ulcers, rheumatic arthritis, chancroid ulcers, ascites, scabies, gutta rosea, abscess of arm, gleet, gonorrhœal rheumatism, sprain, psoriasis, cataract.	Confinement (primipara, 1st position, funis circ. coll.), abscess axilla, whitlow.	Boils, dorsal spinal curvature, pig-bite on cheek, Bright's, ascarides.
	September...	Right inguinal hernia, phimosis, nervous indigestion, scald, ulcer of heel.	Dysentery.....	Strumous glands, double opacities of corneæ.

Meteorological Table, 1st February to 30th September 1898.

Month.	Thermometer.						Barometer.		Rainfall.	
	Maximum.	Minimum.	Maximum Mean.	Minimum Mean.	Maximum Dry.	Minimum Wet.	Maximum.	Minimum.	No. of Hours.	Quantity.
	°F.	°F.	°F.	°F.			*Inches.*	*Inches.*		*Inches.*
February	89.0	42.0	74.0	55.6	85.0	43.0	30.540	30.406	4.50	0.11
March.....	83.5	43.0	69.5	56.2	80.5	41.5	30.540	30.338	9.00	0.20
April.....	92.0	54.0	77.3	64.2	90.0	53.5	30.540	30.310	88.50	10.55
May.....	95.0	61.5	89.6	79.2	93.0	61.0	30.450	30.200	28.00	4.38
June.....	96.5	70.0	90.6	77.3	94.0	73.0	30.350	29.500	44.50	6.18
July.....	96.0	76.0	91.5	79.0	94.5	75.0	30.090	29.530	44.66	5.81
August.....	100.0	73.0	92.3	78.7	96.5	74.0	29.920	29.420	33.50	4.29
September.....	96.0	73.0	91.2	75.3	93.0	72.0	30.120	29.760	46.50	12.23

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CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 31ST MARCH 1899.

57th Issue.

from

PUBLISHED BY ORDER OF

The Inspector General of Customs.

Mar. 27. 1900

SHANGHAI:

PUBLISHED AT THE STATISTICAL DEPARTMENT OF THE INSPECTORATE GENERAL OF CUSTOMS,

AND SOLD BY

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1899.

INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.— * * * * *

I am, etc.,

(Signed) ROBERT HART,
I. G.

THE COMMISSIONERS OF CUSTOMS,—*Newchwang*, *Tientsin*, *Chefoo*, *Hankow*, *Kiukiang*, *Chinkiang*, *Shanghai*, *Ningpo*, *Foochow*, *Amoy*, *Swatow*, and *Canton*.

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DR. JOHN FRANCIS MOLYNEUX'S REPORT ON THE HEALTH OF CHEFOO

For the Year ended 31st March 1899.

THE 12 months terminating 31st March 1899 have presented few points of medical interest. The general health has been excellent, and no epidemic has prevailed.

Births and Deaths.—14 births (five female and nine male) are recorded, and nine deaths occurred. The above numbers include those occurring in the practices of my colleagues as well as in my own work. Of the deaths, the following particulars are given:—

SEX.	AGE.	CAUSE.
Female	62	Cancer (stomach).
Male	25	Dysentery.
Female	22	„
Male	64	Epithelioma.
„	38	Cerebral abscess.
„	36	„ hæmorrhage.

The remaining three were infantile cases.

H.B.M. Squadron.—The period under review has been rendered interesting by the fact that for some months the number of foreigners was greatly augmented by the presence of a squadron from H.B.M. fleet. At one time approximately 10,000 men were within the port limits, and naturally a certain amount of sickness and a few fatal cases from the men-of-war increased our invalid and death rates. A number of patients were landed for treatment ashore, and, after the departure of the main squadron, H.B.M.S. *Iphigenia* sent several cases of variola to the French Hospital.

The presence of the squadron materially influenced the condition of the usual residents. Provisions, especially milk, vegetables, etc., rose to high prices, and the washing of linen became a difficult and expensive problem. This incident was, from a sanitary standpoint, of no little importance; and large quantities of soiled linen were passed through water of a foul character and returned as cleansed.

Health of the Port.—Notwithstanding these extraordinary circumstances, the health of the port has been highly satisfactory. The alterations on the foreshore (now long since effected) have increased the sanitary condition of the neighbourhood. There has been no malarial fever other than of a trivial type (unless introduced by visitors), and Chefoo as it now is well deserves to be regarded as a health-giving resort.

Malaria and Methyl Blue.—My predecessor, after careful research, held a theory to the effect that in this neighbourhood there existed a specific microbe influencing malarial fever, which resisted most of the well-known antifebrile remedies—quinine, arsenic, etc.,—but could

not exist if acted upon by methyl blue. My personal experience (which I give not intending to question my predecessor's able work and known ability, but in the interests of truth and of this port) does not bear out his conclusions. Very little malarial fever has troubled us during the past 12 months; such trivial cases as I have met have yielded readily to the well-known remedies, and I have not administered one dose of methyl blue since my arrival here, 15 months ago.

Typhoid.—Two cases of typhoid fever have been under treatment—one a child of 7, the other a female adult. No complications occurred in either case.

Variola (unvaccinated).—A case of confluent small-pox occurred in the Settlement. The patient, aged 2, was unvaccinated. After a severe experience the infant made a good recovery. There were three other children in the family, all vaccinated, who escaped infection.

Scarlatina.—Three cases of scarlatina (one adult and two infants) were under treatment. These were all benign and uncomplicated cases.

Dysentery.—During the latter half of September we experienced an exceptionally severe storm, accompanied by heavy rains. The crops, recently gathered, had left behind the usual *débris*, which probably were (in their decaying condition) washed into the surface wells outside, but in the neighbourhood of, the foreign Settlement. In this district, and within a few days of the storm, eight cases of hæmorrhage from the rectum were under my care. All were children, and the attacks were coincident in point of time. They failed to yield to ordinary dysenteric remedies, which I at first exhibited, because at this time there was a severe case of dysentery in the French Hospital (verified by postmortem examination).

These cases passed blood in considerable quantities. There was but slight elevation in temperature, in about half of the patients only, and very little pain or inconvenience. The duration was from five to eight days, in one instance continuing to the tenth day. Rectal injections of solution of nitrate of silver appeared to meet the requirements of the case.

Epithelioma and a Warning as to Treatment.—A case of epithelioma was interesting from the fact that the sufferer had, at considerable expense, been under the treatment of an irregular and advertising practitioner in a distant country by the medium of correspondence. The temporary disappearance of the tumour was hailed with gratification by a number of people, not only here but in other ports, and the fame of the advertised "infallible remedy" was almost eclipsing the modest reputation of legitimate practitioners, when the inevitable recurrence occurred, associated with suppuration, and finally erysipelas proved fatal to the sufferer.

My colleague, Dr. GULOWSEN, has kindly furnished me with information respecting his last 12 months experiences, and I am indebted to Captain PATERSSON, the Harbour Master, for the accompanying excellent meteorological report.

In conclusion, I regard Chefoo as an exceptionally healthy place, and, taking into consideration its delightful climate, the ever-varying interest excited by visiting warships of many nationalities, and its proximity to such points of interest as Weihaiwei and Port Arthur, this port stands eminent as a health resort and place of residence.

Meteorological Table, 1898.

Month.	Temperature.			Rainfall.		No. of Hours Fog.	Barometer.		Remarks.
	Max.	Min.	Mean.	No. of Hours.	Quantity.		Highest.	Lowest.	
	° *F.*	° *F.*	° *F.*		*Inches.*		*Inches.*	*Inches.*	
January	51	22	33.3	5	0.10	...	30.650	30.150	Mean temperature slightly above the average.
February.....	54	19	34.1	19	0.74	25	30.510	29.890	
March	75	17	38.1	19	0.23	...	30.610	29.760	Unusually cold; minimum temperature lowest during the year.
April	88	29	54.0	14	1.44	14	30.560	29.630	Normal, though previous cold month retarded the spring.
May	89	43	65.2	3¾	0.07	26	30.250	29.720	As usual, dry; hot and dry winds less frequent than in previous years.
June	95	58	73.2	36	3.95	15	29.965	29.128	Normal.
July.....	97	61	78.4	51¾	13.37	32	29.934	29.384	Greatest rainfall on record and weather throughout tropical and damp.
August.....	88	66	76.9	78	6.17	2	29.972	29.360	Warm and damp, the latter caused by typhoons passing close to Shantung coast.
September....	83	57	70.9	47	2.30	...	30.268	28.880	Normal.
October.....	85	41	65.3	13	0.75	...	30.530	29.680	
November	66	27	49.7	23½	0.76	...	30.560	30.024	Normal and very fine.
December.....	59	23	44.0	66½	0.86	...	30.710	29.830	

Note.—Total rainfall for the year, 30.72 inches, including melted snow.

DR. JAMES H. McCARTNEY'S REPORT ON THE HEALTH OF CHUNGKING

For the Year ended 31st March 1899.

THE health of the foreign community during the last 12 months has been good. Two births and one death occurred. The person who died was not a resident of this place, but was taken ill several days distant from Chungking and returned here for treatment. In this case I was not the attending physician and did not hear the cause of death.

The hot season was unusually long, with a higher range of temperature than I have known for the past nine years. As will be seen by the meteorological table, our warm weather began in June and lasted well into September. The highest reading was 108° F., in July. Although the heat is very trying, it is frequently broken by several days of rain and cloudy weather, which render the summers bearable and residence on the hills very pleasant. With the exception of a night now and again, the writer has spent the whole of eight consecutive summers within the city walls. As a rule, the days and nights are fairly comfortable, except during two or three weeks in August, when there is little rain and more sunshine. Should the sun not shine for 10 days or a fortnight at a time and there be a period of drizzling rain, people are heard to remark that that is typical Chungking weather. It may be so, but I am persuaded that it is the very best kind of weather for Chungking. If we had the sun from November to March as much as most people desire, I am convinced that the city would merit the description sometimes applied to it of being the unhealthiest city in China; but as it is, with little sunshine, experience during the nine years that the port has been open proves that Chungking is one of the healthiest ports in China. The nearness of the mountains enables a person feeling indisposed to take a thorough change without much effort and without necessitating absence from work for any great length of time.

The number of cottages south of the city has considerably increased during the past year. These buildings are all within easy reach of good spring water, and, as far as my knowledge goes, there was no case of sickness in any of them throughout the summer. The majority are built about 1,200 feet above the river, mostly of bricks and mud. The temperature at this elevation is several degrees lower than in the city, and at night the difference is very marked.

Last August the river rose to a greater height than, as the natives tell us, has been known for 20 years. The lower end of the city was entirely under water, and all the water gates but one were closed to traffic. Boats in going in and out of the city generally took their passengers from the top of the city wall.

Remittent Fever.—There was a marked falling off in the number of remittent fever cases. This is the usual result when the heavy rains come early and are unaccompanied by sunshine, whereas with slight showers and plenty of sunshine the number of cases increases. The months

in which remittent fever is most prevalent are February, March, and April, due to the almost entire absence of rain in the immediately preceding months (thus depriving the streets of their natural cleansing) and to the effect of the higher temperature on the organic accumulations. The germination of malaria is fortunately retarded to a certain extent by the lack of sunshine at that period. Two foreigners had slight attacks during the year, which ran the usual course of about two weeks. The treatment that proved most successful was 20 grains of quinine, together with 5 grains of salol or salicine, every three hours, commencing at 4 A.M. It usually reduces the fever in a few days. I always commence the treatment with a purge of 6 or 8 grains of calomel, 2 grains being given every hour. Under foreign treatment there are no sequelæ, but under native treatment very marked—

(*a.*) Anæmia.
(*b.*) General anasarca.
(*c.*) Peripheral neuritis.

I have heard the statement, and seen it in print, that opium-smoking is a prophylactic against malaria. My experience has been to the contrary. An opium-smoker seems to suffer from malaria as readily as those who do not smoke, and when he does contract fever the chances of recovery are against him. There is a very high mortality among opium-smokers attacked by remittent fever.

Epidemics.—No epidemics have visited us during the year. Diphtheria occurs endemically every spring, but I have never known a diphtheria epidemic, which seems very remarkable. The natives expectorate everywhere and take no precautions against infection, but still the disease does not seem to spread. The following cases in the same family will illustrate what I mean. The husband suffered from diphtheria, and died before I saw him. His two children contracted the disease, and, coming under treatment, recovered. An aunt, who helped to nurse the children, was likewise attacked and returned to her husband's home, where I saw her on the eighth or ninth day of the disease. She died within a few days. No other member of the family contracted the disease, although during the woman's illness at least 20 children entered her room. From our knowledge of the disease it would appear that in China every condition is favourable to its spread; that it does not is extraordinary.

Pulmonary Tuberculosis.—I believe that in Chungking more people, both young and old, die from this disease than from any other complaint. The conditions which tend to its spread are as follows:—

(*a.*) The damp, heavy atmosphere.
(*b.*) The habit of expectorating everywhere.
(*c.*) (In young girls) early marriage, before the menstrual period.
(*d.*) Sedentary habits of the Chinese (they cannot be compelled to take exercise).
(*e.*) (In young men) the wholesale practice of self-abuse at an early age.
(*f.*) The scrofulous tendency in the Chinese.

I have attended one foreigner who had frequent hæmorrhages, but who came here in the incipient stages of phthisis. His condition will not improve in this climate, but rather the reverse. I would never advise anyone with a tendency to lung troubles to come to Chungking.

I have had several apparent cures of incipient phthisis; at least, the disease has been arrested. The value of cod-liver oil, together with all its preparations, in the treatment of this disease is becoming well known to the Chinese.

Bronchitis, chronic and acute, is very common among the Chinese. Foreign children up to the age of 3 years are constant sufferers from bronchitis during the winter months, but after that age they seem to have immunity from it. I have found malt and cod-liver oil serve as a prophylactic against recurrent attacks.

Dysentery among foreigners is not common, and most of the cases are due to some indiscretion in diet or to uncooked vegetables or salads.

Cholera Belts, so called.—I believe that the value of these articles of dress is over-estimated, and that very often they do more harm than good. I have attended more cases of bowel trouble among those who are constant wearers of the belt than among those who have never worn it. Many persons have come to China wearing the belt on the advice of their home physician, thinking it the only sure preventive against cholera. I have treated several patients for chronic bowel trouble, who made a rapid recovery when they discarded the belt. Part of the danger lies in the belt working up under the arms during the unconscious hours of sleep, when the abdomen, being deprived of its artificial warmth, is predisposed to any chilling influence.

Cæsarean Section was performed once. The patient was a primipara, 44 years of age. She came by her pregnancy unlawfully (if it had not been for this I should probably not have had the chance of an operation). She had been in labour eight days, and for the past two days had taken no nourishment. I found her in a very weak condition. Examination showed unusual narrowing of the pelvic inlet by osteomalacia formations, to such an extent that two fingers could hardly be inserted. With great difficulty I succeeded in perforating the head, but, after trying every known means, I abandoned the attempt to deliver by natural canal. The woman was in a fair condition, and as opening the abdomen afforded the only hope, her friends consented to the operation. The abdomen was opened by an ordinary incision, and the child (an unusually large one) was delivered without any trouble. The hæmorrhage was very slight. The uterine walls were stitched together with silkworm gut. The peritoneum and abdomen were drawn together with silk and the ordinary dressing applied. Iodoform gauze drainage was put in. No liquid escaped into the abdomen, and the whole operation only occupied about eight minutes. The patient was put to bed in good condition, pulse about 110, with no signs of shock. About four hours after operation shock came on, and death resulted in about half an hour.

Maternity Cases.—For the past eight years I have treated, on an average, over 20 labour cases a year. Foreign medical treatment is only sought in cases where labour has begun for several days, and when the Chinese midwife has abandoned all hope. A very large per-centage are cases of deformed pelvis through osteomalacia. I have met with some of this class where there was not room for the insertion of two fingers and an instrument. In four or five nothing could be attempted but Cæsarean section; but as the patients would not consent to an operation, there was naught to be done but let them die. In shoulder presentations the midwives are unable to do anything, and they invariably pull off an arm in their frantic efforts to deliver. To

illustrate, I will give an instance which happened a few months ago. I was called to see a patient who had been in labour for several days; the midwife had pulled one arm off and was at work on the patient when I arrived. She was seated on the bed, between the patient's legs, using an iron hook in the endeavour to extract the child piecemeal. The patient was almost pulseless and nearly dead from loss of blood and pain from the operation. It was with difficulty that I had the midwife sent away, as she persisted in saying that the child's head was coming, etc. The patient was covered with blankets. A hypodermic of digitalis was given, and in a short time she rallied; I then gave chloroform, amputated the arm, and turned the child without any difficulty. When the child was delivered I found that the midwife had been pulling and tearing at the back, instead of the head as she supposed. This is only one instance of many which are happening constantly.

For the appended meteorological table I am indebted to the Tidesurveyor, Mr. W. G. HARLING:—

METEOROLOGICAL TABLE, April 1898 to March 1899.

MONTH.	BAROMETER.		THERMOMETER.			RAINFALL.		RISE AND FALL OF RIVER.			
	Highest.	Lowest.	Highest.	Lowest.	Mean.	No. of Days.	Quantity.	Highest.		Lowest.	
1898.	*Inches.*	*Inches.*	° *F.*	° *F.*	° *F.*		*Inches.*	*Ft.*	*in.*	*Ft.*	*in.*
April	29.799	28.955	97	53	62.0	8	5.54	16	4	1	8
May	29.445	28.913	90	66	74.1	19	4.83	24	4	7	2
June	29.366	28.988	101	66	79.8	18	6.14	40	11	11	3
July	29.365	28.984	108	69	88.4	9	1.53	61	10	23	4
August	29.395	28.943	105	88	86.3	9	2.45	101	0	28	0
September	29.613	29.092	101	63	78.4	9	4.00	54	3	27	3
October	29.844	29.293	89	50	66.3	11	2.25	31	3	15	10
November	29.967	29.231	78	45	58.5	8	2.54	20	9	8	3
December	29.968	29.512	57	41	48.5	6	0.29	8	3	3	9
1899.											
January	30.011	29.481	58	29	50.1	9	0.67	3	8	2	0
February	29.960	29.260	68	37	54.0	11	1.02	4	2	1	5
March	30.008	29.146	78	54	65.2	12	2.25	4	10	2	2

DR. HERBERT J. HICKIN'S REPORT ON THE HEALTH OF NINGPO

For the Half-year ended 31st March 1899.

THE health of the foreign community for the period under review has been good.

The winter has been bracing, but not excessively cold.

There have been no really anxious cases of disease, and no deaths. The vigour and strength of the community, which are usually much reduced during the hot summer and early autumn months, have been restored to the normal.

There has been only one case of epidemic disease in the Settlement, and three cases of whooping-cough amongst other members of the foreign community. The case of epidemic disease alluded to was that of a mild eruptive fever with slight pains in the limbs and a scarlet efflorescence commencing at the back of the ears, thence diffusing itself over the trunk, limbs, and face. The fever declined, but reappeared after an interval of about 36 hours, and declined again in about 24 hours, though continuing visible under the skin for a longer period. The features of the disease did not resemble either scarlet fever, measles, or influenza. Amongst the natives about a dozen cases of the same fever came under my observation. Taken altogether, the disease, though milder than the classical descriptions of dengue, would seem to fall most naturally under that designation, and is probably a mild form of it. If not dengue, then it must be a new disease most nearly allied to it. In the majority of cases seen it was an extremely simple fever, running a course of a few days, and ending in complete recovery without sequelæ. In some cases there were pain in the eyeballs, frontal headache, pain in the joints, cough, and an eruption appeared in the palms of the hands.

In the autumn and spring there are a good many cases of sore throat, characterised by hyperæmia of the tonsils, pillars of the fauces, uvula, and back of the pharynx, and by the presence of small, scattered vesicles on these parts, but more especially studding the back of the pharynx. As the disease declines, a dirty-white coating appears on the back of the pharynx, and sometimes on the tonsils as well, through which the clear vesicles appear. Local treatment, with quinine, antipyrin, or phenacetin, to allay the slight feverishness, is all that is required. Salicylate of soda is also efficacious. The relaxing climate of Ningpo has probably much to do with the frequency of the ailment. It is often attended with a dry, harassing cough, which, if not attended to, lasts for many weeks.

INFLUENZA.

Four Chinese girls in a mission boarding-school were attacked with high or moderate fever, obstinate vomiting of yellow bile-stained material, pains in the side and back, and constant cough with acute bronchitis. In one case the temperature rose to 105° F., and continued at 105° F. or 104° F., night and morning, for about four days.

Treatment.—Quinine, antipyrin, and phenacetin were of little use, and had a very slight effect on the temperature, which rose again in the course of a few hours to its former height. Salicylate of soda in 10-grain doses was of material use, and seemed to cut the disease short in three or four days.

Sequelæ.—The first patient, the one alluded to above as having high fever, had marked dullness on percussion over the apex and front of the right lung, with crepitant râles and other signs of commencing phthisis. All the other patients made good recoveries.

Influenza at Hangchow in 1890.—As this outbreak differs somewhat from that observed in 1890 in Hangchow, it may be of interest to append notes of influenza as observed there in that year.

In the commencement of June, during dry, warm weather, influenza suddenly broke out, and during the course of 48 hours 35 boys out of a school of 40 were rendered prostrate by it. The symptoms were fever (101°–104° F.), cough, giddiness, and, in some cases, severe vomiting and diarrhœa, with abdominal pain and soreness all over the abdominal regions. The fever was attended by great depression, headache, and restlessness. Almost the whole of the foreign community were likewise attacked, and amongst the natives there was a considerable mortality when treated by native doctors or left untreated.

Treatment.—Antipyrin and stimulant cough and diarrhœa mixtures, together with careful dieting and recumbency, proved most successful. Quinine was also found of benefit, especially as a tonic after the fever had declined.

The cough was hacking, dry, and harassing. Hot weather speedily came on and the epidemic declined, but reappeared about 1st November and in a more severe form. The symptoms now observed were severe pains in the limbs, intense headache, vomiting, severe abdominal pains, diarrhœa, fever (104° F.), throbbing of temples, pain in the eyeballs, giddiness, cough, nausea, together with burning sensation in the throat, eyes, scalding sensation in micturition and defecation.

The principal types were—

1. *Catarrhal.*—Sore throat, cough, fever, headache.
2. *Nervous.*—Giddiness, throbbing of temples, headache (with or without fever), sleeplessness, restlessness.
3. *Abdominal.*—Pains in abdomen, vomiting, diarrhœa, fever, nausea.

Prostration was common to all the types.

Complication and Sequelæ:—

Pleurisy.
Pneumonia.
Bronchitis.

Prostration was a far more marked feature in the autumn than in the earlier epidemic, and led to a higher mortality. Many natives died in a few hours. Convalescence was more prolonged in the autumn attack, and was not complete for many weeks; cough, too, often appeared during convalescence when not present from the outset. Relapses also were common.

Appetite was lost, and the sense of taste often utterly gone. The taking of food became a loathing idea. The disease often commenced with coldness of the extremities without any rigor or chills. The only feature common to both epidemics was dryness of the atmosphere. In both spring and autumn the weather was bad for taking colds. In November the air was dry and sharp, with bright sunshine. No rain had fallen for many weeks.

Causation.—Obscure, probably due to the infection of the system with some kind of bacteria, and either these or their products would seem to be of very acrid nature, causing the burning of the eyes, throat, abdominal irritation, the scalding in micturition and during defecation.

The breath was offensive and the motions very fetid.

DR. B. STEWART RINGER'S REPORT ON THE HEALTH OF CANTON

For the Year ended 31st March 1899.

IN the closing paragraph of my Report for the year ended 31st March 1898* I noted that bubonic plague had commenced in the Canton city, but had not at that time reached alarming proportions. Subsequently, however, it assumed the character of a serious epidemic, in all probability equal in severity to the outbreaks of 1894 and 1896, although, in the absence of any reliable statistics from Chinese sources, it is impossible to make any comparative computations of value. There existed, however, a complete panic amongst the Chinese, and great numbers of the well-to-do natives, in order to escape the terror of their surroundings, left the city with their wives and families, some to seek their country residences, others to occupy large and well-made house-boats, many of which were to be seen anchored in various parts of the Canton River. In this connexion it is worthy of note that the boating population of Canton is credited with a complete immunity from the disease; and in view of their cleanly habits and open-air lives, there is every reason to place confidence in this belief. It is true that cases were found from time to time on the boats, but were doubtless usually traceable to infection brought from the shore.

The epidemic raged fiercely till July, towards the middle of which month it began to subside.

During the epidemic the sights around Shamien were somewhat appalling: dead bodies in various stages of decomposition were frequently seen floating down the river in close proximity to the Bund; indeed, the landing-steps seemed to have a peculiarly attracting influence upon them, and I have myself seen no less than three corpses lying exposed on the ground in the short distance from the east bridge to the steamer wharf.

By the end of July the panic had quite ceased, and many natives returned to their homes in Canton; and though the epidemic may be considered to have ended at that time, doubtless many cases occurred for some time subsequently.

As in Hongkong, so here, an outbreak of rinderpest took place during the early summer months, and the Shamien Dairy Company lost so many animals that, unfortunately, the farm had to be closed for a time; and when no more milk could be obtained, the true value of the institution was fully realised. I am glad, however, to be able to state that subsequently new premises were secured, a fresh supply of healthy animals obtained, and excellent milk again supplied.

* Customs *Medical Reports*, lv.

The usual tropical and other complaints, as noted in the last Report, were treated, malarial fevers and diarrhœa ranking high in the list. Of the latter, those cases which were neglected by the patient or treated at once by himself with astringents were the most difficult to deal with, whereas those seen early usually yielded quickly to the simple treatment of castor oil with restricted diet and rest.

It is very pleasing to be able to note that during the 12 months under review no case of typhoid fever has to be recorded, which speaks well, I think, for the improved sanitation in certain localities where several cases had occurred previously. There was also a notable absence of that febrile epidemic noted in September and October 1897.

A number of cases of otorrhœa and conjunctivitis presented themselves during the wet season. One unusual cause of the latter complaint, in one eye, was found to be due to an eyelash having insinuated itself beneath the margin of the caruncle, where it remained concealed for several days, setting up a considerable amount of inflammation and discomfort, increased by the frequent rubbing applied, which rapidly subsided, however, on the removal of the irritating lash.

Eight births and two deaths have to be recorded. Both the latter were due to exhaustion from chronic diarrhœa.

Amongst the children whooping-cough, measles, chicken-pox, and diarrhœa were encountered, also some cases of infantile convulsions, chiefly, however, of a mild character, with the exception of one unusually severe and prolonged case of convulsions occurring in the course of dentition in a strong and well nourished child, probably too quickly developed, as the eruption of the four first molars commenced at the age of 11 months. The child had been restless and irritable, and one afternoon in November was seized with a convulsion; this was the precursor of several hundred attacks during the subsequent months of dentition. Some of the fits were very slight and transitory and others more severe; the gums of both upper and lower jaw were freely lanced, and this operation was frequently repeated; furthermore, hot baths, sinapisms, emetics, rectal injections, calomel, santonin, quinine, chloroform, hydrate of chloral, bromide of potassium, valerian, and ammonia were each exhibited in turn, but without any very satisfactory result. The drug, however, which proved of the greatest service throughout was bromide of potassium, and given in 1-grain doses, or even less, every three or four hours was usually found to have a soothing influence on the nervous system between the attacks. The convulsions varied greatly in type, ranging from the most violent spasms, which shook every muscle of the body, caused the eyes to be drawn to one side and the face to become congested, to a slight contraction of the facial and cervical muscles merely, producing a fixed expression, which passed off in a few seconds, and, but for the careful and constant manner the child was watched both night and day, might easily have escaped notice. The four first molars were slow in erupting, and the little patient suffered severely as each point appeared through the gum; but at length the process was complete, and a respite from all bad symptoms occurred, and every hope was entertained of complete recovery; for so great was the vigour of this child, and so carefully and frequently had simple and nutritious food been administered and assimilated, that, notwithstanding the amount of medication necessitated and the continued repetition of

the enervating attacks, his digestion remained sound and he had positively gained in weight. All went well for several weeks, when it soon became evident that all four canines were causing further irritation. Prompt measures were again resorted to, notwithstanding which the previous troubles returned, though, I am happy to say, the attacks were of a milder type. Up to the present time the canines are not fully protruded, and the nerve irritation still continues; still I have every hope that the good digestion and strong constitution of this little patient will help to restore him to complete health.

DR. RODERICK J. J. MACDONALD'S REPORT ON THE HEALTH OF WUCHOW

For the Half-year ended 31st March 1899.

DURING the past six months there has been one birth, but no death, in the foreign community here. The season has been unusually dry, yet the general health of the population has not been worse than usual.

RESIDENCES.

Some of the cases of illness among foreigners, such as small-pox, scarlatina, dysentery, and malarial fever, might have been avoided had the foreigners been suitably housed at some distance from the Chinese.

The Imperial Maritime Customs, the British Consulate, and the Alliance missionaries have acquired hill-top sites. Messrs. JARDINE, MATHESON, & Co. are building their business house by the river bank; there is thus a prospect of suitable house accommodation being provided for most of the foreign community. In the meantime all continue to live in unsuitable dwellings and amid unsanitary surroundings.

Some adequate provision for housing the Customs staff is urgently needed, not for the foreigners alone, but also for the natives. The latter must perforce rent houses in the town, which positively are not fit for human beings to dwell in (for I do not know of a single sanitary house in the native style). In times of sickness their sufferings are accentuated. A row of dwellings, having concrete floors, and open drains, bedrooms on the upper story, with windows admitting a sufficiency of light and air, and a rental not much in excess of that paid at present, would meet the needs of the case. They would be an object lesson to the town, and perhaps set the fashion of another and more healthy type of dwelling.

THE FOOD SUPPLY.

The milk, meat, and water supply remain in the same unsatisfactory condition as when last reported, nor is there any immediate prospect of improvement.

Some foreigners have used a still, of foreign pattern but native manufacture, which has recently been introduced here. It can be heated over an ordinary native fire. It is, theoretically, superior to a filter, inasmuch as distilled water is perfectly pure when carefully collected. To those whose drinking water is derived from the contaminated river brink or a well, and who have suffered from dysentery, such a still might prove a great boon.

State of the Town.

Wuchow, with a population of 40,000 or 50,000 inhabitants, has not evolved any methods of sanitation superior to those of a small neglected native village.

The streets, the drainage, the water supply, the public latrines, the disposal of rubbish and of the dead, continue in the same state of neglect as ever. Only recently there was to be seen in the vicinity of the town an uncoffined corpse surrounded by a pack of dogs. Not until the third day was the body buried. Such a sight is a disgrace to a town,

No effort at improvement has been made during the period under review, if we except one futile proclamation prohibiting pigs wandering about the streets. As might be expected, no heed was paid to the proclamation. A town as neglected as Wuchow has been is not to be cleansed by so easy and inexpensive a method as the issue of a single proclamation. Nothing less than the relaying of all the streets and the construction of waterworks will avail now. An epidemic of bubonic plague may be expected in the months of April, May, and June—indeed, sporadic cases have already occurred this year.

Hospitals.

So far as I know, there is no hospital under foreign supervision in the whole of the Kwangsi province, nor do facilities exist either for studying the diseases of this province or for training medical students here. The native hospital, though built, is not in working order.

A free dispensary has been opened in the town by the American Baptist Missionary Society. It is in the charge of a former student of the Canton Hospital.

Leprosy.

Leprosy exists in the town and neighbourhood, but not, so far as I am able to judge, to an alarming extent. Several lepers have applied to me for treatment. The cases have been mostly of the anæsthetic type. Lepers are allowed to dwell among their own people long after the distinct development of the skin and nerve affection. When spontaneous amputation of digits or leonine expression of countenance occur, the sufferer is usually banished from his home. Under the circumstances it is a marvel that the disease is not more prevalent. This seems to show that it might soon be stamped out by an early segregation of all the affected individuals.

Cattle Plague.

An epidemic of foot-and-mouth disease is raging amongst the water-buffaloes in the country between Wuchow and Takhing. I have had no opportunity of treating any of the affected cattle.

Tabular View.

A tabular view of some of the diseases which have occurred at Wuchow during the period under review is appended. For the meteorological table I am indebted to the Harbour Master.

TABULAR VIEW OF DISEASE AT WUCHOW, October 1898 to March 1899.

MONTH.	IMPERIAL MARITIME CUSTOMS STAFF.				
	FOREIGNERS.				NATIVES.
	Adults.		Children.	Residence.	
	Male.	Female.			
1898.					
October					Pleurodynia.
November	Malarial remittent fever.			Pontoon.	—
	—	—	Dysentery	Boat.	—
	Septicæmia			,,	—
December			Strumous glands	,,	Malarial remittent fever.
1899.					
January	Dysentery			Native house	Hæmoptysis, malarial remittent fever.
February			Colic	Temple.	—
	Malarial remittent fever, tonsillitis.			Pontoon.	—
March					Dysentery.

MONTH.	FOREIGN RESIDENTS AND VISITORS.					
	MISSIONARIES.				MERCHANTS, ETC.	
	Adults.		Children.	Residence.	Adults.	Residence.
	Male.	Female.				
1898.						
October					Colic.	—
November			Scarlatina	House in country.	Conjunctivitis	Shop.
December			,,	—	—	—
1899.						
January	—	—	—	—	—	—
February	Small-pox			Shop.	—	—
March	—	—	—	—	—	—

TABULAR VIEW OF DISEASE AT WUCHOW—*Continued.*

MONTH.	CHINESE RESIDENTS AND VISITORS.		
	MALE.	FEMALE.	CHILDREN.
1898.			
October.....	Rheumatoid arthritis, gutta rosea, hæmoptysis, carious teeth, tuberculosis (knee), psoriasis ulcer of cornea, bruise, eczema, colic, scalp wound, double dislocation of lower jaw, ascarides, otorrhœa, abscess, granular ophthalmia, internal hæmorrhoids.	Lymphadenitis cervicalis, hæmorrhage from wounds, syncope, entropion psoriasis, uterine inertia (forceps delivery), malarial remittent fever.	Dysentery, congenital syphilis, angular curvature.
November...	Opium habit, epilepsy, lymphadenoma syphilitica, wounds of scalp and hand, strumous diathesis, ulcers, bronchitis, paraplegia, chronic rheumatism, alveolar abscess, hip disease, glaucoma.	Ague, tinea circinata.	—
December ...	Malarial remittent fever, bronchitis, abscess, eczema, opium habit, lipoma, whitlow, tetanus, dislocation of femur, septicæmia, rheumatic arthritis, gleet, sporadic bubonic plague.	Dysentery, conjunctivitis, uterine inertia (forceps delivery), chronic rheumatism, bronchitis, toothache, malarial remittent fever.	Scarlatina.
1899.			
January.....	Malarial remittent fever, ulcers, eczema, tertiary syphilis, strumous glands, cataract, asthma, whitlow, abscess, gonorrhœa, cirrhosis of liver, abscess of antrum, rheumatic arthritis, anæmia, dropsy, Bright's disease, chronic rheumatism, bullet wound of neck and left lung, syphilitic rheumatism, internal hæmorrhoids, granular lids, tinea circinata.	Primipara (forceps delivery), ascarides.	—
February.....	Strumous cervical glands, laryngitis, gastralgia, ascites, corneitis, malarial amaurosis, salivary fistula, bronchitis, inflammatory Bright's disease, small-pox.	Hæmoptysis, colic, tertiary syphilis.	Colic, scald.
March	Ague, malarial nephritis, phthisis, tertiary syphilis, asthma, eczema, psoriasis, scabies, chronic ulcer, perforating ulcer, wen, diarrhœa alba, fistula in ano.	Adherent placenta (removal of), dyspepsia.	Sporadic plague, anæsthetic leprosy, tuberculosis, otorrhœa, inflammatory Bright's disease, constipation.
	Cattle.—Foot-and-mouth disease.		

METEOROLOGICAL TABLE, October 1898 to March 1899.

MONTH.	THERMOMETER.						BAROMETER.		RAINFALL.	
	Maximum.	Minimum.	Maximum Mean.	Minimum Mean.	Maximum Dry.	Minimum Wet.	Maximum.	Minimum.	No. of Hours.	Quantity.
1898.	°*F.*	°*F.*	°*F.*	°*F.*			*Inches.*	*Inches.*		*Inches.*
October.....	92.0	60.0	85.7	64.1	89.0	61.0	30.250	29.840	2	0.06
November.....	91.5	45.0	79.9	57.2	84.0	45.0	30.520	29.880	...	...
December	79.0	44.0	72.1	47.7	77.0	44.0	30.500	30.080	...	...
1899.										
January.....	75.0	41.0	64.5	48.0	73.0	40.0	30.540	30.100	15½	0.40
February	84.0	45.0	67.9	51.3	82.0	44.0	30.500	29.930	59¼	2.52
March.....	84.0	48.0	75.3	59.5	82.0	43.0	30.440	30.000	10	0.53

NOTE SUR UNE ÉPIDÉMIE DE "PESTE BUBONIQUE" OBSERVÉE À PING-S'HIANG (KOUANGSI) EN MAI–JUIN 1898.

Par le Docteur A. THOULON,

Médecin de la Marine Française, Chevalier de la Légion d'Honneur, etc.

SUR des renseignements parvenus depuis quelques jours à Longtcheou et signalant aux environs de Ping-s'hiang d'assez nombreux cas de mort attribués par les indigènes à la peste bubonique, M. le Consul de France m'invitait, le 22 mai, à aller constater le fait. Je me suis aussitôt en route.

Ping-s'hiang est une petite ville chinoise située dans le cirque du même nom, au pied même des collines calcaires qui forment la première zône de l'enceinte fortifiée du camp retranché de Liêng-chêng,* quartier général du commandant supérieur des troupes du Kouangsi. Elle se trouve à 40 kilomètres environ de Longtcheou et à 35 de Langson, par la route "militaire" très fréquentée qui la traverse. Elle compte 1,500 habitants, sous l'administration d'un *thou-quan*, petit chef aborigène. Extraordinairement insalubre comme toutes les villes chinoises, avec ses mares, véritables cuves à fermentation, avec ses maisons mal aérées, elle offre au développement des maladies épidémiques les conditions les plus favorables possible. Il est même surprenant que le typhus, le choléra et la peste qui règnent ici à l'état endémique ne fassent pas de ravages plus grands, que ceux qu'ils commettent, dans ces milieux où les règles de la propreté et de l'hygiène les plus élémentaires sont inconnues, et où bêtes et gens—touchante familiarité—grouillent pêle-mêle sous le même toit.

Dès notre arrivée nous controlâmes l'exactitude des renseignements fournis. Nous apprîmes que la maladie en question, connue des Chinois, le plus généralement, sous le nom de *yang-tzeu-ping* (maladie à bubons), et qu'on appelle ici *cheng-k'i ch'uang ping-sseu* (littéralement, "naître, apparaître bubon maladie mortelle"†), sévissait dans la localité, exclusivement, depuis à peu près un mois. Elle avait même choisi, de préférence, certains cantonnements; le *ya-meunn* du *thou-quan* avait ainsi fourni au fléau une large et coûteuse hospitalité: le chef de famille, sa femme, une de ses filles, d'autres parents, des domestiques—en tout, 14 personnes—y étaient mortes. Son apparition avait été précédée d'une grande mortalité de rats et de porcs. La mort se produisait, chez l'homme, du deuxième au cinquième jour en

* C'est à Liêng-chêng qu'éclata, en 1880, la terrible épidémie qui y fit, en moins de deux mois, un millier de victimes sur un effectif de 4,000 hommes environ. On compta, m'a-t-on dit, jusqu'à 50 décès en un seul jour. En 1891, nouvelle épidémie, moins sévère, à Liêng-chêng et à Longtcheou; de même, en 1893–94. En 1895, enfin, quelques cas isolés à Longtcheou.

† La peste est connue, au Yunnan, sous le nom de *yang-tzeu-ch'uang*; on la désigne, en cantonnais, par les termes *y-lao-shih*; les Thos l'appellent *than-p'au-thai*. Elle porte beaucoup d'autres noms dont les plus répandus sont: *luan-tzeu-chêng, shu-y, piao-shê, tâ t'ou t'ienn-hsing chêng, hung-sseu-ting.*

moyenne, selon la gravité des cas, avec de la fièvre, des bubons, et, plus rarement, des "boutons noirâtres d'une espèce particulière, très douloureux," nous rapportèrent les gens interrogés.*

Le lendemain, on nous fit appeler; nous en observâmes deux cas, l'un datant de 24 heures, le second, au troisième jour. Le surlendemain et les jours suivants nous continuâmes à en voir de nouveaux.

À une énumération de symptômes plus ou moins vaguement décrits, nous étions à même de substituer une étude coordonnée de signes bien nets; aussi, notre hésitation ne fût-elle pas de longue durée et affirmâmes-nous le diagnostic de peste bubonique.

La période d'invasion—car je n'ai jamais pu voir de malades à la période d'incubation—se manifeste toujours ou presque toujours par une céphalalgie très vive qui n'a jamais fait défaut, par des vertiges et par une altération profonde des traits. La langue est recouverte d'un enduit blanchâtre crayeux, sauf sur les bords et la pointe, où elle reste rouge. Nous n'avons jamais rencontré la raie bleuâtre que signalent certains auteurs. Les malades accusent des douleurs à l'épigastre et à l'abdomen, sans localisation précise. Nous n'avons jamais noté d'épistaxis. Remarquons d'ores et déjà que la forme hémorrhagique a été très rare au cours de cette épidémie; nous ne l'avons rencontré qu'une seule fois.

18 à 36 heures après, en moyenne, s'ouvre une nouvelle période. La température est très élevée—39°.5, 40°, 41°,—avec un pouls excessivement rapide—120, 140, 160 et plus; la respiration s'accélère considérablement—35, 40, 45. Le malade présente un état typhique prononcé. La céphalalgie est atroce; la peau, brûlante; la soif, inextinguible; les douleurs épigastriques et abdominales, augmentées. L'enduit dont la langue est recouverte prend ordinairement une teinte jaunâtre. Quelques vomissements d'aspect bilieux se produisent. La constipation, dans les cas observés par nous, a été la règle;† la quantité d'urine émise diminuée. Les téguments prennent une teinte subictérique.

Après un laps de temps de 12 à 30 heures, en moyenne, se sont montrés, suivant les cas, des bubons ou de simples engorgements ganglionnaires; ces derniers, spécialement accompagnés de pustules gangréneuses. En même temps, le corps se couvre de sueurs profuses coïncidant avec une rémission qui n'est bien marquée que dans les cas heureux et qui va alors en s'accentuant, pour se terminer en même temps que la fièvre, par la convalescence, du sixième au septième jour.

Au contraire, dans les cas à terminaison fatale, l'état typhique s'accentue. Alors, se manifestent des troubles d'origine nerveuse: soubresauts, trémulations fibrillaires, et contractions spasmodiques occupant les groupes musculaires du cou, de la poitrine et des membres supérieurs plus spécialement. On observe du strabisme supérieur convergent, de la déviation conjuguée des globes oculaires, de la mydriase. Les malades sont dans la stupeur ou le coma. Concurrement ont éclaté les complications broncho-pulmonaires. Cet état se prolonge, dans les cas graves ordinaires, 24, 36 heures et plus, et les malades meurent dans le collapsus.

* C'est alors et après un télégramme résumant nos renseignements, que nous reçumes du Gouvernement Général de l'Indo-Chine l'ordre de demeurer à Ping-s'hiang, pour y étudier cette épidémie.

† Un de mes prédécesseurs à Longtcheou, M. le Dr. SIMOND, médecin de première classe des colonies, a fait la même remarque, au cours de l'épidémie de peste de 1893–94.

Dans les cas foudroyants, ces trois périodes se déroulent en quelques heures—48, en moyenne.*

Observation I.

Petite fille "tho," âgée de 5 ans. Habite le *ya-meunn* du *thou-quun*. Son père y décédé de la peste bubonique, ainsi que 13 autres personnes, les jours précédents.

25 mai.—Elle est malade depuis deux jours. À la région cervicale latérale gauche, siège une adénite très développée. Les ganglions offrent une masse bosselée, très dure au toucher, très douloureuse à la pression. La peau est rouge et tendue. La langue est couverte d'un enduit crayeux épais; la muqueuse buccale enflammée. Le thermomètre, dans l'aisselle, marque 39°.8; le pouls, petit, bat 160; la respiration, brève et saccadée, est à 50. Peau brûlante. Pas de vomissements; constipation depuis quatre jours; quantité des urines émises diminuée. Soif ardente. Le foie paraît normal; la rate est augmentée de volume. La malade est dans un état d'agitation extrême et se plaint constamment.

26.—La langue devenue jaunâtre est gonflée et fendillée. Les gencives sont recouvertes, ainsi que les lèvres et les dents, de fuliginosités. L'état d'agitation persiste avec des contractions musculaires et de véritables soubresauts tendineux dans les groupes des membres supérieurs. Yeux convulsés en strabisme supérieur convergent. Apparition de pustules gangréneuses à la région sternale et dans le dos. Température, 40°.1; pouls, 185; respiration, 50.

Dans la soirée le thermomètre est à 40°.7; le pouls à 192; la respiration à 58.

La mort survient vers minuit.

Observation II.

Jeune Chinois de 20 ans. Constitution moyenne. Habite le centre de la ville.

25 mai.—Malade depuis trois jours; aspect typhique. À la région cervicale, à droite et à gauche, adénite dont le développement efface les dépressions du cou et présente au toucher, sous la peau qui est rouge et congestionnée, deux masses indurées. Gêne respiratoire considérable. À l'auscultation, signes de congestion broncho-pulmonaire. Crachats striés de sang. Le thermomètre marque 40°; pouls, petit, battant 120. La langue est recouverte d'un enduit blanc-jaunâtre très épais. Sécheresse de la bouche. Pas de vomissements; constipation. Quantité d'urine émise dans les 24 heures presque normale. Soif intense. La rate et le foie paraissent normaux.

26.—Des pustules gangréneuses sont apparues au cou, dans le dos et à la face externe de la jambe droite. Trémulations fibrillaires dans les groupes musculaires du thorax et des avant-bras. Délire de paroles. Carphologie. Température, 40°.7; pouls, 130. Respiration stertoreuse.

Le malade meurt dans la soirée en état comateux.

* On trouvera peut-être que je me suis étendu avec beaucoup de complaisance sur une symptomatologie déjà connue; j'ai cru devoir le faire pour répondre à un désir qui m'avait été exprimé de voir décrites d'une façon minutieuse les manifestations de l'épidémie qui nous occupe.

OBSERVATION III.

Chinois de 18 ans. Constitution moyenne. Habite le centre de la ville.

25 mai.—Aurait de la fièvre depuis trois jours. Bubons cruraux, à droite, très douloureux à la pression. Zône d'inflammation considérable. Céphalalgie excessivement vive; vertiges. Température, 39°.4; pouls, 128; respiration, 42. Langue humide recouverte, sauf sur les bords et à l'extrémité, d'un enduit blanchâtre. Constipation. Quantité des urines émises en 24 heures normale. Douleurs assez vives au creux épigastrique. Le foie paraît normal; la rate est augmentée de volume.

26.—L'état du malade est sensiblement le même. A eu, dans la soirée, deux selles amenées par une purgation énergique. Miction normale. La peau est couverte de sueur. Température, 39°; pouls, 126; respiration, 37.

Le soir, température, 39°.1; pouls, 120; respiration, 38.

27.—Le malade accuse un peu de mieux dans son état général. Sueurs très abondantes. Un des bubons entre en voie de ramollissement. Le thermomètre est à 38°.8; le pouls à 110; la respiration à 34.

Le soir, température, 39°; pouls, 114; respiration, 35.

28.—Le mieux s'accentue. Au toucher, sensation bien nette de fluctuation du bubon. Sueurs toujours abondantes. Température, 38°; pouls, 99; respiration, 30.

29.—Le malade peut être considéré comme entré en convalescence. Température, 37°.3; pouls, 90; respiration, 26.

Le soir, même. Ses parents, sans avoir fait part de leur projet, le transportent à la campagne. Je l'ai perdu de vue.

OBSERVATION IV.

Chinois de 33 ans. Forte constitution. Habite le centre de la ville.

26 mai.—Malade depuis deux jours. À la région du pli de l'aine, à droite et à gauche, gâteau dur, volumineux, très douloureux à la pression, constitué par le groupe ganglionnaire supérieur oblique. Peau brûlante. Thermomètre, dans l'aisselle, 40°.2; pouls, petit, à 125; respiration, 36. Langue recouverte d'un enduit blanchâtre peu épais; bords et pointe libres. Douleurs violentes au creux épigastrique avec sensation très pénible de chaleur intérieure. Céphalalgie très vive. Quelques vomissements d'aspect bilieux; pas de selle; urines rares; soif intense.

27.—Le malade délire depuis hier au soir; il est dans un état d'abattement très grand. Température, 40°.5; le pouls, très dépressible, bat 120; respiration, 40. Muqueuse buccale rouge, sèche, enflammée; pas de vomissements; la constipation persiste. Apparition de pustules gangréneuses à la région cervicale antérieure, dans le dos, à la fesse et à la cuisse droites. Conjonctivite intense de l'œil gauche.

Soir, température, 40°.6; pouls, 136; respiration, 48.

28.—Même état. Température, 40°.2; pouls, 128; respiration, 38.

Le soir, le thermomètre marque 40°.4; le pouls bat 134; et la respiration est à 42.

29.—Le malade est à la dernière extrémité. Contractions musculaires généralisées; mydriase. État de prostration. Température, 40°.9; pouls, 144.

On m'apprend que la mort est survenue, dans le coma, deux heures environ après ma visite.

Observation V.

Femme "tho," 50 ans. Habite une des extrémités de la ville.

27 mai.—Malade depuis quatre à cinq jours. Au-dessous du pli de l'aine droite, dans le groupe ganglionnaire supérieur oblique, bubon volumineux, douloureux à la pression, avec zône inflammatoire très étendue. Température axillaire, 39°.2; pouls, 138. Gêne respiratoire considérable. Catarrhe broncho-pulmonaire. Langue recouverte d'un enduit crayeux épais. Deux petits vomissements se sont produits ce matin même, dont on n'a pu me déterminer la nature. Céphalalgie très intense. Constipation. La quantité d'urine émise dans les 24 heures est inférieure à la normale. Teinte subictérique des téguments.

28.—La malade est dans le coma. Gêne respiratoire extrême. Température, 39°.6; le pouls, misérable, est à 140. Anurie.

La mort a eu lieu dans l'après-midi.

Observation VI.

Garçon—métis de "Tho" et de Chinois,—âgée de 7 ans. Ses parents habitent au centre de la ville.

28 mai.—Malade depuis quatre à cinq jours. Au-dessous du pli de l'aine gauche, tumeur volumineuse, douloureuse à la pression, formée de deux bubons accolés. Peau sèche, brûlante. Le thermomètre, à l'aisselle, marque 40°; le pouls bat 164. Langue gonflée et fendillée. État inflammatoire de la bouche et du pharynx. Enduit fuligineux des lèvres, des gencives et des dents. Constipation. Urines rares. Aspect typhique.

29.—Au moment où je revois le petit malade, il est mourant, avec des accidents cérébraux rappelant ceux de la méningite aigüe.

Observation VII.

Femme "tho," 40 ans. Habite le centre de la ville.

28 mai.—A de la fièvre depuis deux jours. Énorme gâteau ganglionnaire, très douloureux à la pression, siègeant à la région axillaire gauche. On sent, au toucher, trois tumeurs de volume différent. Aspect typhique. Peau sèche et brûlante. Température, 39°.6; pouls, 112; respiration, 39. Langue humide, recouverte d'un enduit crayeux. Douleurs vives à l'abdomen, autour de l'ombilic. Céphalalgie intense. Constipation. Quantité d'urine émise dans les 24 heures presque normale. Rate considérablement augmentée de volume; le foie paraît normal.

29.—La malade est dans un état profond d'abattement. Elle n'en sort que pour prononcer quelques paroles inintelligibles. Température, 39°.5; pouls, 110; respiration, 38. Des vomissements brunâtres, me dit-on, se sont produits hier dans la nuit. Pas de selles. Quantité d'urine diminuée.

Le soir, le thermomètre est à 39°.8; le pouls à 114; et la respiration à 38.

État comateux, dans lequel meurt la malade assez tard dans la soirée.

Des quelques observations précédentes, jointes à un bon nombre d'autres—que je ne rapporte pas ici pour éviter des répétitions fastidieuses,—il est permis de tirer les conclusions suivantes:—

Le symptôme dominant de la peste bubonique est un état typhique très prononcé du malade; il n'a jamais fait défaut.

Le bubon a existé dans la majorité des cas, siègeant de préférence aux aines, la gauche, de préférence. Lorsqu'il a cédé le pas à l'adénite non suppurée, celle-ci s'est emparé de préférence des ganglions cervicaux et sous-maxillaires. Bubons et adénite ont toujours été très douloureux; l'adénite variable d'intensité. Dans le cas de suppuration, un seul bubon, à l'exclusion des autres, s'il en existe plusieurs, subit cette transformation.

La fièvre est continue, à exacerbations vespérales peu accusées; elle atteint toujours 39°.5 et dépasse 40°, mais elle arrive rarement à plus de 41°.2.

Dans un tiers des cas, environ, sont apparues des pustules gangréneuses siègeant, par ordre de fréquence, au cou, au dos et aux membres; la zône d'infiltration et l'œdème ont toujours été très considérables.

Les complications broncho-pulmonaires ont été assez fréquentes; nous les avons rencontré dans un sixième des cas.

La forme hémorrhagique (épistaxis, hémoptysie, pétéchies) a été rare—un vingtième des cas.

Le volume du foie est, en général, normal; celui de la rate est toujours—ou presque toujours—augmenté considérablement.

Le vomissement bilieux se produit fréquemment.

La constipation est habituelle.

La quantité des urines émises pendant les 24 heures est diminuée. Les urines ne revêtent pas de caractère particulier de coloration. Nous avons noté de l'anurie plusieurs fois.

La durée de la maladie, dans les cas foudroyants, n'a pas dépassé 48 heures; dans les cas graves, la terminaison fatale a eu lieu entre le quatrième et le cinquième jour; dans les cas heureux, la convalescence a commencé avec la suppuration des bubons du sixième au huitième jour.

La mortalité, dans les cas que nous avons observés, a été de 90 pour cent.; dans l'ensemble des cas accusés, elle n'aurait été que de 86 à 87 pour cent.

Il aurait, du fait de cette épidémie, d'après les renseignements recueillis, disparu un peu plus du quinzième de la population de Ping-s'hiang. Contrairement à ce qui a été observé à Canton, au cours de la dernière épidémie, c'est parmi l'élément masculin adulte que la peste a fait, à Ping-s'hiang, le plus de victimes.

De l'enquête à laquelle nous nous sommes livrés, il résulte que l'épidémie qui nous occupe serait née sur place et pas descendue du Yunnan.

Nous sommes d'ailleurs convaincu, d'accord en cela avec les missionnaires et avec les autorités locales déjà vieillies dans la région, que la peste bubonique est, comme le choléra, endémique au Kouangsi.

RAPPORT MÉDICAL

DU 1ER OCTOBRE 1898 AU 31 MARS 1899, SUR LA SITUATION SANITAIRE DE MONGTZE,

Par le Docteur E. REYGONDAUD.

CLIMATOLOGIE.

MONGTZE est situé à 1,400 mètres d'altitude, dans une grande plaine entourée de montagnes de 1,800 à 3,000 mètres. Au nord de la plaine ces hauteurs s'abaissent très sensiblement; au sud une coupure très nette qui fait communiquer la plaine de Mongtze avec la vallée du Sin-shien-hô et une autre moins prononcée où passe une route peu fréquentée vers Manhao. La première de ces deux dépressions est située au S.S.E. de Mongtze, la seconde au S.S.O. Ce sont là les deux couloirs par lesquels arrivent les vents dominants de la région, ceux de S.S.O. en première ligne, puis ceux de S.S.E.

Il y a à Mongtze deux saisons bien tranchées: l'hiver ou saison sèche d'octobre à mai, et l'été ou saison pluvieuse de mai à octobre.

Baromètre.—Les moyennes vont sensiblement en montant pendant les mois d'octobre, novembre et décembre pour redescendre ensuite. Les variations diurnes sont peu sensibles; maximum et minimum ne diffèrent guère dans les 24 heures que de 3 millimètres au plus. Dès que les vents tournent à l'est une élévation barométrique se fait sentir avec abaissement notable de la température.

Thermomètre.—La température va progressivement en descendant d'octobre à janvier et commencement de février, où elle atteint son minimum. En mars elle remonte assez sensiblement. Cette année les chaleurs se sont prolongées plus que de coutume et l'hiver, à part quelques journées pendant lesquelles le ciel était couvert, n'a pas été froid; la plus basse température a été de + 2° centigrades, les 29 et 30 janvier et le 2 février.

Vents.—Les vents ont une direction constante. Excessivement rares sont ceux du nord, ouest et est. Ils oscillent du S.O. au S.E.; les plus fréquents sont du S.S.O. En hiver ils atteignent souvent une grande intensité. Été comme hiver ils soufflent de la même direction et ne diffèrent guère qu'en violence. À quoi est due cette constance de direction? C'est un point à élucider.

Pluies.—La saison d'hiver, caractérisée en général par une sècheresse très marquée, a été cette année assez pluvieuse. Les deux mois les plus secs de l'année, janvier et février, ont eu, le premier, 12mm.11 de pluie; le deuxième, 11mm.46.

Mois.	Températures moyennes.		Pressions barométriques moyennes.		Pluie.		Vents dominants.
	Maxima.	Minima.	Maxima.	Minima.	Journées pluvieuses.	Quantité de pluie.	
1898.	° C.	° C.				*Mm.*	
Octobre	23.9	13.7	655.6	653.8	6	16.76	N.E. pendant les 10 premiers jours; S.S.O. le reste du mois.
Novembre	20.4	9.8	657.1	654.6	3	0.82	S.S.O. et S.O.
Décembre	15.5	7.1	658.6	656.7	5	2.80	„ „
1899.							
Janvier	16.0	6.0	656.5	654.8	7	12.11	S.O. et S.S.E.
Février	17.9	7.2	655.6	653.8	4	11.46	S.S.O.; S.S.E. les jours de pluie.
Mars	21.4	10.0	655.8	653.2	5	29.55	S.S.O. et S.S.E.

PATHOLOGIE: MALADIES OBSERVÉES.

Mongtze, du fait de sa situation, devrait se trouver dans des conditions parfaites de salubrité. Le climat est excellent, mais, comme dans toute ville chinoise, la saleté la plus repoussante règne en maîtresse partout, non seulement dans les rues où l'on rencontre à chaque pas des flaques d'eau croupie et puante, mais même dans les maisons où gens et animaux vivent sous le même toit au milieu des immondices. Il est donc tout naturel qu'une affection épidémique comme la peste, importée il y a de longues années, ait trouvé en ces lieux son foyer de prédilection. Pendant l'hiver le fléau couve sous la saleté pour faire son apparition tous les ans à l'arrivée des chaleurs et ravager la population.

À part la peste, dont aucun cas ne se produit en hiver, les affections les plus fréquentes sont: le paludisme, les affections stomacales, les bronchites, les affections oculaires et la gale. À la fin de décembre j'ai constaté quelques cas de grippe.

Le paludisme à Mongtze même n'existe pas. Les cas de fièvre paludéenne que j'ai pu observer s'étaient tous produits chez des gens venant de la vallée du fleuve Rouge, soit de Manhao, soit de Yuenkiang. Le *mauvais air* de Manhao est renommé parmi les chinois de Mongtze à tel point que les caravanes ne séjournent jamais à Manhao. Les mafous remontent de suite dans la montagne après avoir déchargé leurs bêtes.

La plus courante des affections stomacales est une gastrite toxique due à l'abus de l'opium.

Aux premiers froids j'ai eu à soigner en octobre deux cas de grippe et six en décembre.

Les affections oculaires sont des plus fréquentes et pour la plupart consistent en kératites et opacités anciennes de la cornée, de nombreux ptérygions.

La gale est très courante et cela n'a rien d'étonnant vu la saleté des individus.

Les chiffres suivants diront d'ailleurs suffisamment la fréquence de ces diverses affections:—

(Européens (effectif, 7).

Dyspepsie	1	Abcès urineux	1
Amygdalite	1		

Indigènes.

Pathologie interne.

Bronchite	12	Rhumatisme articulaire	5
Gastrite opiacée	11	Hystéro-épilepsie	1
Bronchite catarrhale	2	Laryngite	1
Grippe	8	Athrepsie	2
Embarras gastrique	3	Emphysème pulmonaire	1
Fièvre paludéenne	9	Tuberculose pulmonaire	1
Anémie	1	Angine simple	1

Pathologie externe.

Plaies et ulcères	39	Adénite cervicale	1
Fracture du bras	1	Rhinite	1
Otorrhée	2	Gengivite	2
Entorse du poignet	1	Adénite crurale	1
Carie dentaire	6	Ptérygion	12
Phlegmon du bras	1	Iritis	1
Anthrax du dos	1	Blepharite	1
Varices	2	Conjonctivite	6
Phlegmon de la main	1	Kératite	9
Arthrite	1	Trichiasis	1
Contusion	5	Opacité de la cornée	12
Hémorrhoïdes	2	Pannus	1
Abcès costal	1	Atrophie de la papille	1
Luxation de l'index	1	Symblepharon	1
Douleur sciatique	1	Cataracte	1

Maladies cutanées et vénériennes.

Eczema	4	Blennorrhagie	2
Herpès circiné	2	Syphilis	6
Gale	15		

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JUN 16 1900

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 30TH SEPTEMBER 1899.

58th Issue.

from PUBLISHED BY ORDER OF

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June 15, 1900

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AND SOLD BY

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LONDON: P. S. KING & SON, 2 AND 4, GREAT SMITH STREET, WESTMINSTER, S.W.

[*Price* $1.]

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1900.

INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4— * * * * *

I am, etc.,

(Signed) ROBERT HART,

Inspector General.

To

THE COMMISSIONERS OF CUSTOMS.

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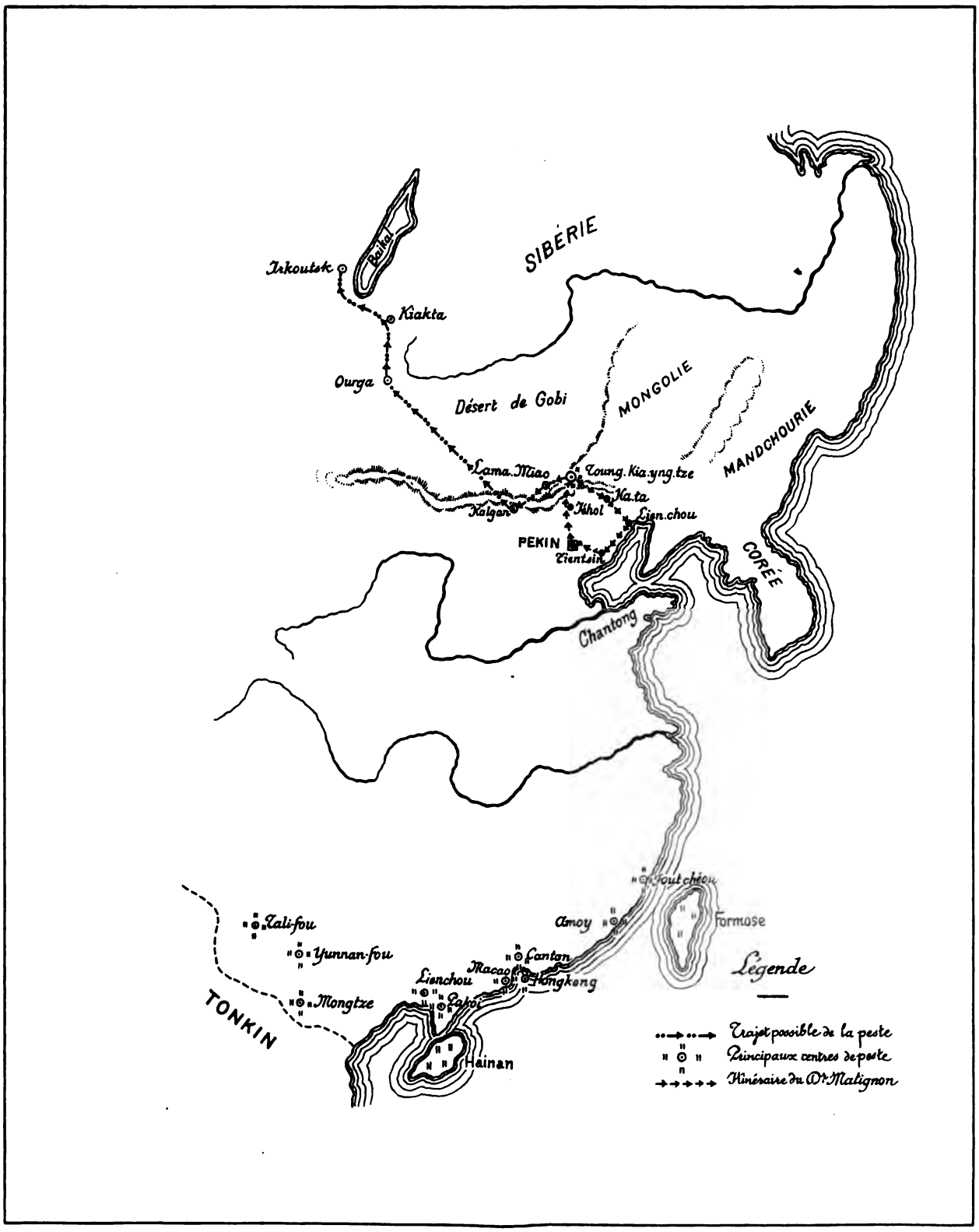
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Irkoutsk
Kiakta
Ourga
Désert de Gobi
MONGOLIE
MANDCHOURIE
Lama. Miao
Toung. Kia. yng. tze
Ka. ta
Kalgan
Ikhol
Lien. chou
PEKIN
Tientsin
CORÉE
Chantong
Tsout chéou
Amoy
Formose
Tali-fou
Yunnan-fou
Canton
Macao
Hongkong
Lienchou
Pakoi
Mongtze
TONKIN
Hainan
Légende
Trajet possible de la peste
Principaux centres de peste
Itinéraire du Dr Malignon

LA PESTE BUBONIQUE EN MONGOLIE.*

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LE Mongolie commençait, autrefois, immédiatement au nord de la Grande Muraille de Chine. L'expression géographique a été conservée, bien que, depuis de nombreuses années, la majeure partie de la contrée soit absolument chinoise. Les Mongols ont peu à peu été refoulés vers le nord et vers l'est, par les Célestes, cultivateurs laborieux, et les anciens possesseurs du sol ne se trouvent plus que sur le grand plateau de Mongolie, vulgairement désigné sous le nom de "Terre des Herbes," où ils mènent une vie à peu près nomade.

Le plateau de Mongolie est séparé de la Chine proprement dite, par une large bande de montagnes, qui vont, s'élevant par étages, du sud au nord, et qui, sur certains points, forment une barrière naturelle de 200 à 300 kilomètres d'épaisseur.

Cette région montagneuse, surtout dans sa portion est, n'est, dans certains endroits, ouverte que depuis fort peu d'années à la culture. Autrefois, tout était couvert de bois et inhabité. Les forêts de cette contrée se continuaient avec la grande forêt impériale, dont la superficie est presque égale à celle d'un de nos départements. Mais, depuis que les Chinois ont été autorisés à habiter cette région, les arbres ont disparu et les montagnes sont, maintenant, absolument déboisées.

À 12 jours de cheval de Pékin, en marchant vers le nord-est, on trouve, immédiatement située au pied du plateau de Mongolie, la petite chrétienté de Toung-kia-yng-tze, où depuis neuf ans règne la peste bubonique.

Ce village est placé par 42°.3 de latitude nord et 118 longitude est de Paris. Son altitude est 1,245 mètres. Il occupe le milieu d'une petite vallée, Sô-leu-kô, longue d'une quinzaine de kilomètres, très étroite, ayant, au maximum, en certains endroits, 200 mètres de largeur et brusquement coudée, à angle droit, en son milieu. Toung-kia-yng-tze se trouve justement au niveau de ce coude. La vallée présente, donc, deux orientations. Sa partie supérieure se dirige du nord au sud: sa partie inférieure de l'ouest à l'est.

Cette vallée, il y a 20 ans à peine, était inculte et inhabitée, entièrement couverte d'arbres. La terre arable en est pauvre, surtout formée de cailloux charriés par le petit ruisseau qui traverse la vallée et qui, après chaque saison des pluies, se transforme en un torrent d'une violence extrême, inondant la contrée, détruisant tout sur son passage.

Les vents du nord et du nord-ouest, venant du plateau de Mongolie, font rage dans la vallée de Sô-leu-kô, aussi l'hiver y est-il particulièrement rigoureux. Le thermomètre tombe à $-35°$, et ces basses températures durent plus de cinq mois.

* Communication faite à l'Académie de Médecine de Paris.

L'été commence en juin, pour finir en septembre. Il est assez chaud. Mais, dès le mois de septembre, on peut avoir de la neige et du froid. Pendant mon séjour à Toung-kia-yng-tze, j'ai vu, le 15 septembre, le thermomètre marquer au soleil 40°. Le vent du nord ayant soufflé du plateau de Mongolie, la température s'abaissa pendant la nuit à 0°.

La population qui habite cette vallée est entièrement chinoise. Les premiers colons furent des chrétiens venus de la frontière de Mandchourie, qui firent appel à des ouvriers, surtout de la province du Chantong, pour les aider dans leurs travaux de déboisement.

Les conditions d'hygiène dans lesquelles vit cette population sont des plus défectueuses. Les maisons sont des taudis infects, véritables huttes de sauvages, aux murs de terre et à toit de chaume. Toutes, ou à peu près, sont bâties sur le même modèle. Sur une sorte de vestibule médian, s'ouvre, par une porte basse, une chambre à droite et à gauche. Celle-ci a, en moyenne, 4 mètres de long sur 4 mètres de large, et moins de 3 mètres de hauteur; soit un cubage d'environ 50 mètres cubes. Mais de ce chiffre il faut retrancher plus d'un quart pour les nombreux coffres, qui sont les seuls meubles, et le *k'ang*, sorte de bâti en briques, haut de 80 centimètres, large de 2 mètres, occupant tout un côté de la pièce. Le *k'ang* qui se chauffe par en dessous, sert de lit.

Une pièce comme celle que nous venons de décrire donne facilement asile à cinq ou six personnes.

La ventilation pendant la belle saison est suffisamment assurée par les fissures des murs et des fenêtres. Mais l'hiver venu, tout est soigneusement calfeutré et l'air, jusqu'au retour du printemps, ne sera pour ainsi dire plus renouvelé.

Les familles sont nombreuses, et parents, enfants, domestiques, vivent là, pêle-mêle, entassés les uns sur les autres. Les malades occupent la même pièce que les gens bien portants, au milieu du bruit, de la fumée du tabac, de l'odeur de ménage. Aussi on peut aisément prévoir quel excellent terrain trouvent là, pour se développer, le typhus, la variole et l'ophtalmie granuleuse, qui sont les trois affections les plus répandues.

À ces conditions tout à fait mauvaises, au point de vue de l'habitation, il faut joindre une saleté corporelle révoltante. Nulle part, en Chine ou en Corée, je n'ai rencontré gens aussi sordides. La plupart des habitants ne se lavent pas la figure une fois par an. Le savon est une chose absolument inconnue. Les habits ne sont qu'un bloc de crasse, portés pendant des années, jusqu'à ce qu'ils tombent, en quelque sorte, en déliquescence.

La nourriture consiste surtout en millet, sorgho (blé noir) et légumes, tels que choux et navets. Le riz est un aliment de luxe. Il se fait une assez grande consommation de viande de mouton.

Les boissons consistent en une sorte d'eau-de-vie, faite avec des graines de sorgho fermentées, et en thé. Mais le thé est, presque toujours, à cause de son prix, remplacé par des feuilles de sorphora ou de saule, si bien que l'infusion n'a du thé que la couleur jaune.

L'eau de cette contrée est excellente. Son goût est agréable. Elle est bien filtrée par le sous-sol en gravier et sable. D'ailleurs, dans ce pays, les infiltrations des fosses d'aisances ne sont pas à craindre. Les fosses fixes n'existent pas, les Chinois satisfaisant leurs besoins en plein air.

Les habits des gens morts de maladie contagieuse ne sont ni désinfectés, ni lavés, et sont portés par quelque membre de la famille du défunt.

En temps ordinaire, les cadavres sont placés dans des cercueils, lesquels sont à peine enterrés, puis recouverts de terre. Celle-ci, après les inondations et les grandes pluies, est enlevée, et le cercueil et son contenu restent exposés à l'air. Le cercueil est un luxe que tout le monde ne peut se permettre, en temps d'épidémies. Dans ces circonstances, les morts, encore chauds, sont roulés dans une vieille natte et inhumés, tant bien que mal. Beaucoup de païens, pendant l'épidémie de peste de 1896, ne se donnaient même pas la peine d'enterrer les morts. Les cadavres étaient jetés dans une gorge voisine de Toung-kia-yng-tze, où pendant la nuit les loups venaient parfois les dévorer. Mais il arriva souvent que ces animaux n'y touchèrent pas. Les habitants se contentèrent de placer quelques pierres et un peu de terre sur les corps et l'inhumation leur parut suffisante.

Ce rapide exposé des conditions générales de l'hygiène de la vallée Sô-leu-kô, nous permet d'entrevoir quel milieu particulièrement favorable pour leur développement, pourront y trouver les germes de la peste. Les habits, les maisons, le sol sont autant de réceptacles dans lesquels le bacille de Yersin pourra facilement attendre une occasion de manifester sa virulence.

À ces conditions d'ordre général nous devons en joindre quelques autres, plus particulières, mais qui sont des facteurs de premier ordre, au point de vue de la contagion et de la propagation de la peste. Dès qu'un cas de peste se produit dans une maison, non seulement les parents continuent à rester en contact permanent avec le malade, couchent à côté de lui, mais les voisins viennent voir, passent des heures, parlant, fumant, buvant dans la chambre du pestiféré. Ce n'est que lorsque l'épidémie revêt le caractère très grave qu'elle eut en 1896, que les habitants commencent à avoir peur, et, alors, le vide se fait autour du patient, que personne n'ose plus approcher.

Les malades atteints de pneumonie pesteuse crachent où ils peuvent, à terre, sur le *k'ang*, sur les couvertures, sur l'oreiller. Ces crachats sont transportés par les chaussures, par les habits, par les mains mêmes, dans les maisons voisines. J'ai vu un homme enlever, avec ses doigts, de la bouche de sa fille, des crachats trop gluants qui se collaient aux dents et aux lèvres. L'opération faite, notre homme essuya ses mains à ses culottes, et, un moment après, sans s'être lavé, se mit à manger.

Grâce à ces habitudes, la peste a pu se propager, lentement, mais sûrement, dans la vallée de Sô-leu-kô, et il n'est pas un village, maintenant, qui soit resté indemne de l'épidémie.

La peste parut, pour la première fois, en septembre 1888, dans le petit village de Yan-che-kou, situé au nord-ouest de Toung-kia-yng-tze, au fond d'une petite vallée, longue de 3 à 4 kilomètres, s'ouvrant dans celle de Sô-leu-kô. Une jeune fille, d'une vingtaine d'années, qui n'avait jamais quitté la vallée, fut la première victime.

La maladie me paraît avoir été importée par les ouvriers, qui, tous les ans, avec le printemps, arrivent des provinces du sud, surtout de celle du Chantong, pour aider les indigènes dans leurs travaux. La province du Chantong ne renferme pas, à ma connaissance tout au moins, de foyers de peste. Mais la population de ses côtes compte de nombreux marins qui font le cabotage dans tous les ports de mers de Chine, allant à Amoy, Canton, centres de peste,

en rapportant des marchandises, des habits de toute provenance, dont beaucoup peuvent avoir appartenu à des pestiférés. Ces habits, achetés par les ouvriers, qui vont en Mongolie, ont pu servir de véhicule aux germes de la maladie épidémique qui semble, maintenant, avoir de si solides racines dans la vallée de Sô-leu-kô.

Depuis 1888 la peste s'y est montrée tous les ans. Ses manifestations n'ont pas toujours été identiques et surtout sa gravité a été des plus variables. Quelquefois bénigne, comme cette année-ci par exemple, elle à été, le plus souvent, particulièrement sévère. Il eût été intéressant de pouvoir retracer la marche des épidémies successives, depuis neuf ans. Malheureusement, les efforts que j'ai faits à ce sujet sont restés négatifs. J'ai pu seulement, grâce à l'obligeance de deux missionnaires belges, les PP. DE BEULE et TROUVÉ, que je ne saurais trop remercier pour les nombreux services qu'ils m'ont rendus pendant mon séjour en Mongolie, établir les grandes lignes de l'épidémie de 1896.

L'épidémie débuta en juillet, dans le village de Chou-kia-ou-pou, situé à 1 kilomètre et demi au nord de Toung-kia-yng-tze, et du 12 au 15, trois personnes meurent dans la même famille.

Presque en même temps, 14 et 16 juillet, quatre cas se produisent, dans la même maison, à Eur-tao-kou, situé au sud-ouest du village précédent et séparé de lui par une petite montagne.

De là, la peste se dirige vers le nord-est et un décès se produit, fin juillet, à Tou-tao-kou. Tous ces villages avaient, dans les années précédentes, déjà été visités par la maladie.

Celle-ci a, du reste, une allure des plus irrégulières. En même temps que nous la voyons se manifester dans les villages situés au sud-ouest de son point de départ, nous la trouvons aussi au nord-est, dans une région jusque-là indemne. Elle a franchi une haute montagne (1,693 mètres), et, redescendant dans une petite vallée, elle éclate, en juillet, à Chang-san-yng-tze, où, jusqu'au 15 août, elle tue 13 personnes, sur une population de 100 habitants.

C'est par Chang-san-yng-tze, attaqué pour la première fois en 1896, que nous verrons débuter l'épidémie de 1897.

De là, elle gagne Houan-tze, séparé du précédent village par une petite montagne d'une centaine de mètres d'altitude et quatre décès s'y produisent en août.

En août l'épidémie éclate dans Toung-kia-yng-tze. Les premiers cas se montrent autour de l'église. Le village compte environ 300 habitants: sur ce nombre il y a 160 chrétiens. Les renseignements donnés par les missionnaires ne concernent que les familles chrétiennes, pour lesquelles ils tiennent un registre de décès. Pour les païens, les renseignements sont fort approximatifs.

Voici les relevés faits par les missionnaires:—

Famille LY.—LY meurt le 4 août; sa sœur le 16: ils sont enlevés en moins de trois jours. Le 20, le 21, le 26, le 27 août, le 1er, le 6 septembre, des domestiques ou employés de la maison meurent à leur tour. Leur maladie dure deux ou trois jours. Tous ont des bubons; quelques-uns des crachats pneumoniques.

Mission.—Un domestique succombe le 4 août, après quatre jours de maladie; un autre, le 1er septembre, après trois jours de maladie.

Famille TOUN.—Le neveu et la nièce meurent le 20 et le 21 août; ils ont été souffrants trois jours. Le fils meurt le 1er septembre; le père le 7: ils étaient malades depuis trois à quatre jours. Des domestiques de la maison, la mère et deux fils meurent du 8 au 10 septembre, après trois à quatre jours de maladie. Tous ont des bubons.

Famille OUANG.—La mère, femme de 40 ans, est emportée au deuxième jour, le 8 septembre. Ses deux fils meurent le 9.

Immédiatement derrière le village, se trouve un petit hameau, Ho-yng-tze, où trois cas se produisent: un adulte meurt le 4 septembre; un vieillard le 8; un garçon de 20 ans, fin octobre. Ce fut le dernier cas de la saison, pour le village.

Toung-kia-yng-tze fut le point le plus sérieusement touché. Au plus fort de l'épidémie, le village était désert, la majeure partie des habitants ayant fui devant la maladie. Pour les familles chrétiennes, nous trouvons 23 morts sur 160 habitants, soit une mortalité de 14.1 p. 100, mais ce chiffre n'est pas absolument exact. Les enfants, jusqu'à l'âge de 10 ans, ne comptant pour ainsi dire pas, les prêtres ne sont pas informés de leur décès, et, lorsqu'à la fin de l'année, ils font le recensement de leurs fidèles, ils constatent qu'un certain nombre ont disparu, sans qu'ils aient été prévenus de leur mort.

Les missionnaires estiment, pour Toung-kia-yng-tze, la mortalité globale, chrétiens et païens, à 45 décès, soit 15 p. 100 de la population.

Il n'y eut qu'un seul cas de guérison.

De Toung-kia-yng-tze, l'épidémie s'étend, en suivant la vallée, vers le nord et l'est.

Le village de Si-kou-meng, situé à 2 kilomètres au nord du précédent, est atteint le 15 août et, jusqu'au 18, quatre décès s'y produisent.

Au milieu de septembre la peste arrive tout à fait au sommet de la vallée de Sô-leu-kô, au village de Kon-hao, et 12 décès surviennent, du 15 septembre au 22 novembre. Quatre familles chrétiennes seulement ont été atteintes, mais deux particulièrement. C'est ainsi que nous voyons dans la famille LI, la mère et le père mourir le 2 octobre, le fils le 8, le petit-fils le 10, enlevés en trois ou quatre jours. Tous avaient des crachats pneumoniques. Dans la famille TIAO, le premier fils meurt le 14 novembre, la mère, la femme du fils aîné, le deuxième fils, le 18 novembre: la maladie a duré un jour et demi à deux jours. Le troisième fils meurt le 22 novembre. Tous avaient des crachats pneumoniques.

La saison déjà très froide, en novembre, semble ne pas avoir beaucoup contrarié la marche de la maladie.

Du côté de l'est, deux villages seulement furent atteints. Du 3 au 5 septembre, huit cas se produisent à Eur-tao-ou-pou, et, le 7 septembre, deux cas nouveaux à Tou-teu-kou.

Récapitulant tous les décès dont nous venons de parler, nous arrivons au nombre de 92.* Nous croyons qu'on peut établir, comme moyenne, une mortalité de 13 p. 100 de la population. Les cas de guérison furent très rares et un seul a été porté à ma connaissance.

* Ce n'est là qu'un chiffre approché; car, si on y joint les païens et les enfants, on peut estimer à 160 ou 180 le nombre des morts de la vallée de Sô-leu-kô.

L'épidémie de 1897 a revêtu un caractère beaucoup moins grave que celle de l'année précédente. Tous les cas ont eu une issue fatale, mais leur nombre n'est guère que le septième de celui de 1896.

Nous avons vu la dernière épidémie franchir la montagne de Ma-lien-to et atteindre deux villages, jusque-là indemnes, Chang-san-yng-tze et Houan-tze. C'est par ces mêmes villages qu'elle débute cette année. Un cas se produit le 19 juillet à Chang-san-yng-tze; un autre, le 20, à Houan-tze. Continuant sa marche vers le nord-est, la peste atteint deux villages jusque là respectés: Ma-lien-to, où, du 19 juillet au 30 août, nous enregistrons six décès, et Toung-kou, où trois cas surviennent, du 3 août à la fin du mois.

L'épidémie, au début, semble vouloir marcher vers le nord-est. Mais, à la fin d'août, elle change de direction, franchit la montagne traversée l'an passé et redescend dans la vallée de Sô-leu-kô. Le premier cas se montre dans le hameau de Han-kia-vouan-tze, situé au pied de la montagne. Les épidémies précédentes avaient respecté ce village, composé de deux ou trois groupes de maisons. Du 27 août au 5 septembre, dans la même ferme, cinq personnes meurent. La peste continue à descendre dans la vallée, c'est-à-dire à marcher vers le sud. Le 30 août un cas se produit à Hsi-kou-meun, chez un vieillard de 81 ans, dont les enfants sont morts l'année précédente. Le 8 septembre Toung-kia-yng-tze est de nouveau atteint. Une jeune femme est enlevée en 48 heures.

Depuis le commencement de l'épidémie, jusqu'à mon départ de Sô-leu-kô, le 20 septembre, il ne se produisit que 13 cas.

Ainsi, dans la marche de l'épidémie de 1897, nous trouvons deux périodes, assez nettes. Dans la première, la peste paraît vouloir s'étendre vers le nord-est; dans la seconde, elle revient en arrière et redescend dans la vallée où, l'année précédente, elle avait fait rage. Tandis qu'en 1896 10 villages ou hameaux, dont deux jusque-là indemnes de tout mal, avaient été atteints, sept seulement sont touchés en 1897, et, parmi eux, trois qui avaient jusqu'ici été à l'abri de la contagion.

L'épidémie a débuté fin juillet, c'est-à-dire à une époque où déjà les fortes chaleurs sont passées et où les nuits sont très fraîches. D'abondantes pluies ont notablement refroidi l'atmosphère.

Tandis que, bien souvent, presque toujours même, dans le sud, le début de la maladie est annoncé par la mortalité soudaine des rats, dont les cadavres sont trouvés, en grand nombre, dans la campagne ou dans les rues, ici, rien de semblable n'est survenu. Les animaux domestiques ne paraissent, eux non plus, être nullement incommodés par la maladie. Seules, les mouches crèvent. Mais encore faut-il que l'épidémie soit déclarée et qu'elle revête un caractère très grave. Le fait s'est produit l'an passé et les missionnaires furent frappés de la quantité de mouches mortes qu'on voyait dans les chambres occupées par les pestiférés. Je n'ai constaté rien de semblable, cette année.

L'âge et le sexe ne paraissent jouer aucun rôle, au point de vue étiologique. Dans les quelques cas qui se sont produits, pendant mon séjour à Toung-kia-yng-tze, nous trouvons: un vieillard, trois garçons de 20 ans, un autre de 12, des hommes et des femmes de 50 ans, des jeunes filles. À Canton les médecins anglais avaient remarqué que les femmes et les enfants,

surtout ceux du sexe féminin, étaient, à cause de leur vie recluse, plus atteints que les mâles. Ni les missionnaires, ni moi, n'avons eu l'occasion de faire de constatations pareilles.

Les malingres, les débilités sont atteints, comme les gens robustes. Mais, chez ces derniers, la maladie revêt un cachet d'acuité plus considérable et la mort survient plus rapidement.

Les indigènes prétendent que les fumeurs d'opium jouiraient d'une certaine immunité. Il n'en est rien et les missionnaires ont, au contraire, constaté combien la maladie avait de prise sur ces derniers.

Une première atteinte ne confère pas l'immunité. Il est mort, pendant l'épidémie de 1896, à Toung-kia-yng-tze, un chrétien qui, l'année précédente, avait eu une attaque de peste très caractéristique, avec bubons.

Les missionnaires européens, qui depuis plusieurs années occupent cette contrée, passant leur temps au milieu des malades et donnant l'exemple du plus parfait dévouement, ont, jusqu'ici, paru réfractaires à la maladie.

Dans la grande majorité des cas la contagion doit se faire de l'homme malade à l'homme sain. Nous avons déjà dit comment, dès qu'un cas se produisait dans une maison, celle-ci était aussitôt envahie par les curieux, qui venaient dans la chambre du patient, le touchaient et séjournaient, là, des heures. S'ils ne contractaient par eux-mêmes la maladie, ils en transportaient des germes et contaminaient quelques-uns des leurs.

La contagion n'est pas suffisante pour expliquer tous les cas, et il faut alors en chercher la cause dans les germes qui ont séjourné, depuis l'épidémie précédente, dans une maison, dans des vêtements, et qui, tout à coup, grâce à des conditions de température, d'humidité convenables, ont atteint un haut degré de virulence.

Quelle est la porte d'entrée du germe dans l'organisme? Les voies pulmonaire et digestive me paraissent les plus vraisemblables. J'ai été frappé de voir des gens ayant approché des pestiférés, ou habitant leur maison, et qui présentaient les mêmes phénomènes que ceux qui caractérisaient le début de l'infection pesteuse (courbature générale, fièvre, vertiges, inappétence, troubles gastriques, langue saburrale, haleine fétide) être brusquement améliorés par l'action du calomel. Je me suis, alors, demandé si l'infection ne commençait pas par le tube digestif.

Les renseignements donnés par les Chinois, soit sur leur maladie, soit sur celle de leurs parents, étaient trop vagues pour me permettre de préciser le temps écoulé entre l'apparition des premiers symptômes et le moment où avait eu lieu le contact avec un pestiféré. C'est dire que la durée de l'incubation est difficile à déterminer.

Elle me paraît cependant être courte et, à ce sujet, je rapporterai le fait suivant. Un ouvrier de Toung-kia-yng-tze venait de passer, sans en descendre, huit jours sur le plateau de Mongolie. Il arrive chez lui une après-midi. Il y avait un cas de peste dans sa maison. Le lendemain matin, c'est-à-dire 18 ou 20 heures plus tard, il éprouvait les premiers symptômes du mal et 48 heures après il était mort.

Maladie à forme typhoïde grave, presque toujours compliquée de bubons, parfois d'expectorations analogues à celles de la pneumonie, à évolution très rapide, à terminaison fatale dans 99 p. 100 des cas, ainsi peut être définie la peste de Mongolie.

La symptomatologie est des plus simples. À part le bubon, cette maladie n'a pas de symptômes qui lui soient réellement propres. Et encore le bubon peut-il faire défaut; plusieurs malades, cette année, n'en ont pas eu, mais, par contre, ils avaient des crachats à forme pneumonique.

Le diagnostic exact de la maladie, au début d'une épidémie, peut rester indécis, jusqu'à ce qu'un cas, compliqué de bubons, puisse nous mettre sur la bonne voie; car, en l'absence de bubon, en l'absence de crachats gommeux sanguinolents, la maladie véritable, uniquement caractérisée par des symptômes typhoïdes, peut être méconnue.

Le début est, assez souvent, soudain. Un individu qui s'était couché bien portant est réveillé, pendant la nuit, par un mal de tête violent, du malaise général. Un autre, en revenant de son travail, se sent, tout à coup, mal, dans l'après-midi, alors que rien, jusqu'alors, n'avait pu lui faire soupçonner l'invasion de la maladie.

Les premiers symptômes sont ceux de toutes les grandes maladies infectieuses: abattement, malaise, courbature générale, frissons. Les jambes sont cassées, les cuisses très douloureuses, surtout dans leur portion interne; les pieds présentent souvent une grande sensibilité et ne peuvent supporter le poids du corps. Les parois thoraciques sont également très douloureuses. Le mal, dont se plaint le patient, n'a rien de commun avec le point de côté; il rappelle plutôt celui que provoquerait une violente et large contusion.

La céphalalgie est précoce. Au début, c'est une lourdeur de tête, avec bourdonnements d'oreille, léger trouble de la vue. Le mal de tête devient, rapidement, gravatif, mais, surtout, s'accompagne de vertiges d'une intensité généralement considérable; beaucoup de malades sont, presque sitôt atteints par l'infection, obligés de se coucher, les vertiges les empêchant de marcher.

Les vertiges violents et les douleurs dans les côtés m'ont paru être les deux symptômes de début faisant le moins souvent défaut.

En même temps, le malade éprouve une inappétence à peu près parfaite, la langue est blanche, la soif assez vive, la constipation de règle, et, parfois, un premier purgatif ne donne guère de résultats. Dans certains cas, cependant, la maladie revêt, au début, absolument le masque d'un embarras gastrique fébrile et le patient éprouve, momentanément, les meilleurs effets d'un évacuant.

La fièvre, dès ce moment, est déjà élevée, atteignant 38°.5 à 39°, souvent accompagnée de frissons, de claquements de dents, qui peuvent durer plusieurs heures et simuler un accès paludéen à cause des stades de chaleur et souvent de sueurs consécutifs.

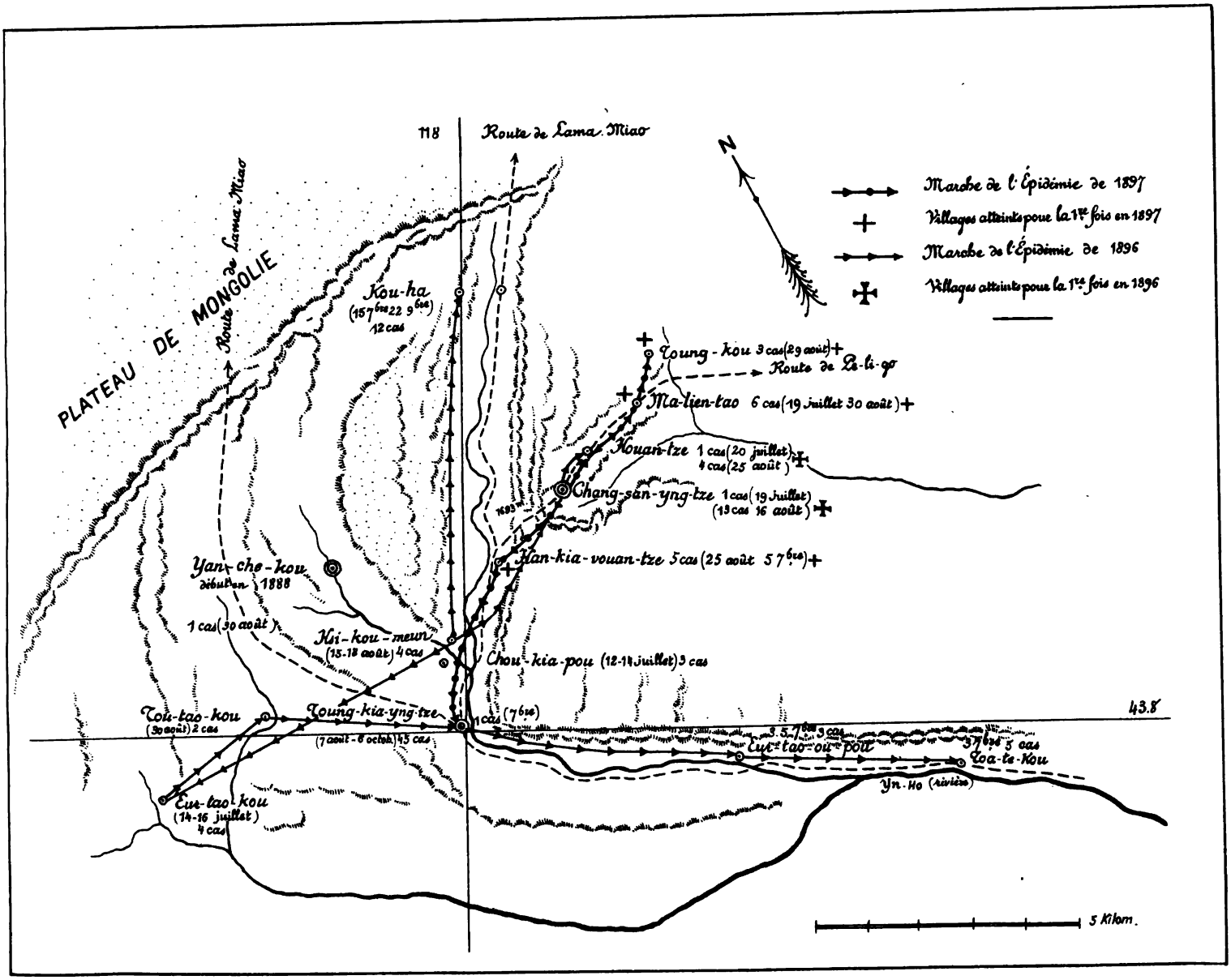
La nuit, le sommeil est mauvais; le malade s'agite, rêve, a des cauchemars.

Cette période d'invasion est ordinairement très courte et ne dépasse jamais une journée, durant, en moyenne, 10 à 15 heures. Nous n'avons noté ni épistaxis, ni diarrhée. On observe fréquemment un certain état nauséeux et quelquefois des vomissements.

La période d'état de la peste est caractérisée par une prostration profonde, arrivant vite au semi-coma, une fièvre généraletnent très élevée et la production de bubons.

Le bubon peut même être le premier symptôme de la maladie et se produire avant les phénomènes généraux, dont nous venons de parler. Un enfant de 12 ans se plaint brusquement, dans l'après-midi, de douleurs à l'aine droite, douleurs pas très violentes, mais exaspérées par le

LA VALLÉE DE SÔ-LEU-KÔ.



moindre mouvement du membre. Par la palpation on trouve une glande, de la grosseur d'une noisette, mobile sous la peau, mais très sensible à la pression; l'exploration fait crier le patient. Celui-ci a la peau un peu chaude, mais ne présente ni céphalalgie, ni vertige, ni aucun des phénomènes généraux des maladies infectieuses. Ou, dans tous les cas, s'ils existent, ils sont tellement atténués qu'ils n'incommodent pas l'enfant. Ce n'est guère que 24 heures après l'apparition de cette douleur et du gonflement inflammatoire du ganglion inguinal que la céphalalgie, les vertiges, des vomissements se montrent, avec une fièvre atteignant 40°.6 et un pouls à 136.

Le malade est abattu; la face est rouge, l'œil brillant, légèrement injecté, avec des mucosités accumulées dans l'angle, accolant les paupières. La photophobie est rare et, lorsqu'elle existe, n'est jamais très accusée. La langue, saburrale les premiers jours, devient rapidement large, rouge et sèche. Elle a peu de tendance à se couvrir de fuliginosités. Les lèvres sont sèches; l'haleine est mauvaise. Une certaine dureté d'oreille est fréquente. Le malade répond mal aux questions, parce qu'il n'entend pas très bien et surtout parce que la maladie le plonge vite dans un état profond de torpeur intellectuelle et physique.

La peau est sèche, brûlante. Je n'y ai jamais constaté la moindre trace d'éruption.

La fièvre est élevée, atteignant 40°, 40°.6, 40°.8 et s'accompagne souvent de frissons, de claquements de dents, survenant d'une façon très irrégulière, mais de préférence, cependant, quand la température est arrivée à son acmé. Les rémissions matinales sont peu considérables.

Interrogé, le malade se plaint surtout de son abattement, véritable anéantissement. Il se plaint aussi de la céphalalgie revêtant le caractère gravatif: le moindre mouvement provoque dans sa tête des douleurs très violentes et surtout des vertiges très pénibles. Aussi le patient reste-t-il, le plus possible, immobile et répond à peine. Les genoux, les cuisses sont toujours le siège de douleurs, plus ou moins aiguës; mais celles-ci semblent se localiser, de préférence, dans les parois thoraciques, où elles n'ont fait que s'exagérer depuis le début de la maladie.

C'est le malade qui, presque toujours, attire notre attention sur la formation ou l'existence du bubon, à cause de la douleur que ce dernier provoque. Son siège d'élection m'a paru être surtout l'aine, puis l'aisselle, enfin la région rétro-auriculaire. Rarement, il se montre à la nuque, au creux poplité.

Un ou plusieurs ganglions sont attaqués. Quand plusieurs glandes sont touchées, une toujours parmi elles prend un développement plus considérable.

Le premier effet de l'inflammation glandulaire se traduit par de la douleur. Celle-ci est spontanée ou provoquée par le mouvement. Elle paraît, en général, 12 à 20 heures après que les premiers symptômes de la maladie ont commencé à se manifester. Si, à ce moment, on explore la région on peut ne trouver qu'un petit ganglion, très sensible à la pression, mobile sous la peau, qui ne présente aucune modification à son niveau.

Il n'y a pas de rapport à établir entre le volume du bubon et la douleur qu'il provoque. J'ai vu un bubon de l'aine rester presque indolore, bien que son volume eût déjà atteint celui d'un œuf de pigeon, alors que chez le même malade, un bubon de l'aisselle, à peine gros comme une noisette, était fort douloureux; quelquefois, le bubon ne devient sensible, spontanément ou à la pression, que lorsqu'il a déjà atteint un développement assez considérable.

La formation du bubon n'amène aucune modification dans la courbe thermique ou dans l'état du pouls.

Les ganglions de l'aine sont ceux qui, toujours, m'ont paru former les bubons les plus volumineux. Souvent ceux de l'aisselle n'ont pas dépassé la grosseur d'une petite noisette, restant toujours mobiles sous la peau. Celle-ci, toutes les fois que l'absence d'emplâtres (très en faveur auprès des Chinois) m'a permis de bien l'examiner, ne portait aucune trace de rougeur, ni de vascularisation anormale.

Une fois ou deux seulement, la simple inspection de la région nous a, par le relief qu'il faisait sous la peau, indiqué la présence du bubon. Celui-ci doit être recherché, surtout pour l'aisselle et la région rétro-auriculaire. En ce dernier point, les phénomènes douloureux m'ont paru être plus violents qu'ailleurs, peut-être en raison de la moindre extensibilité de la peau. Les dimensions de la glande enflammée ont toujours été peu considérables; celle-ci ne faisait aucune saillie et parfois il fallait explorer soigneusement la région pour trouver le ganglion malade.

Deux bubons peuvent siéger côte à côte ou dans deux régions différentes.

Dès le début de la maladie, le pouls s'accélère. Il y a même parallélisme assez manifeste entre le nombre des pulsations et l'élévation de la température. Dans les heures qui précèdent la mort le pouls s'accélère d'une façon effrayante, dépassant 150 à 160 battements par minute. Quelquefois j'ai noté un léger dicrotisme.

La dyspnée se voit presque toujours avec un chiffre de 38, 40 inspirations par minute. L'état du poumon ne peu expliquer ce phénomène. Peut-être les douleurs de la cage thoracique jouent-elles un certain rôle, en s'opposant à la libre dilatation des côtes. Mais je crois que l'hyperthermie est le facteur primordial de cette dyspnée.

L'examen clinique des divers organes ne présente rien de bien intéressant à signaler.

Le cœur est celui qui paraît le plus souffrir de l'infection pesteuse. De bonne heure, il s'accélère; ses battements sont violents et, rapidement, il prend le caractère fœtal. Dans un cas seulement, chez un enfant de 12 ans, j'ai perçu au premier bruit pulmonaire un souffle râpeux, qui momentanément disparut, une légère et courte amélioration s'étant produite après injection de sérum de Yersin, mais qui ne tarda pas à se reproduire. À mesure que la maladie progresse, les battements sont de moins en moins forts. Le premier bruit systolique commence, tout d'abord, à être moins bien perçu: cet affaiblissement du premier bruit a été constaté chez tous mes malades. J'ai aussi noté le dédoublement du bruit de la base.

La percussion du thorax m'a toujours montré une sonorité normale. L'auscultation n'a donné que des renseignements négatifs. Même dans les cas où des crachats gommeux, couleur abricot, pouvaient à bon droit faire soupçonner une hépatisation pulmonaire, je n'ai trouvé que quelques râles et quelques sibilances, mais jamais les signes stéthoscopiques de la pneumonie.

Bien que la peste ait un caractère hautement infectieux, la rate ne semble en rien souffrir des attaques du mal. Chez tous mes malades j'ai tous les jours, deux fois par jour souvent, soigneusement exploré cette glande. Toujours elle m'a paru avoir les dimensions normales, n'étant douloureuse, ni spontanément, ni à la pression.

Il en a été de même pour le foie.

Dans certains cas une inspection rapide pourrait faire supposer que ces organes sont sensibles. La palpation paraît douloureuse. Mais quand on la pratique avec soin, on constate que cette hypéresthésie est non pas profonde, mais superficielle, siégeant dans les muscles intercostaux et abdominaux.

L'urine a présenté des caractères un peu différents. Certains malades en rendaient une assez grande quantité; elle était claire et ne se troublait pas. Chez d'autres, l'urine était rare, rouge, et par refroidissement laissait déposer de nombreux sédiments uratiques. Mais dans aucun des quatre cas où plusieurs examens d'urine ont été faits je n'ai trouvé traces d'albumine.

Deux de mes malades ont attiré mon attention sur des phénomènes douloureux (ténesme, cuissons violentes) qui se produiraient au moment de la miction. Le même phénomène se serait, paraît-il, produit chez un certain nombre de malades.

Du côté du tube digestif, nous ne devons signaler que quelques vomissements, mais surtout une inappétence complète, laquelle facilite singulièrement le régime préconisé par nos confrères chinois, qui consiste à prendre un peu d'eau. Un malade aurait eu du sang dans ses matières; mais je n'ai pu me rendre compte de l'exactitude du fait. La constipation est de règle. Mais, presque toujours, des purgatifs légers en ont facilement raison. Les matières sont noires et leur odeur est horriblement fétide.

La palpation abdominale n'est pas douloureuse, en général. Les purgatifs provoquent, parfois, une très légère amélioration dans l'état du patient; mais elle est de courte durée.

La prostration va faisant des progrès. Les malades qui, au début de la période d'état, étaient déjà très somnolents, sont maintenant semi-comateux. Quelquefois un petit cri semble indiquer que le patient se plaint vaguement de son bubon, des douleurs de côté. L'œil est terne, sans expression. Parfois ce calme comateux est interrompu par des mouvements des mains, s'agitant comme pour saisir un objet imaginaire, le malade délirant légèrement.

Le sommeil est mauvais, constamment troublé par des rêves ou des cauchemars.

De petites quintes de toux, horriblement pénibles à cause des secousses ressenties dans la tête et des phénomènes vertigineux consécutifs, se produisent chez quelques malades. Elles sont suivies de crachats gommeux sanguinolents, rappelant tout à fait les crachats couleur sucre d'orge de la pneumonie. Ils sont peut-être un peu moins gluants. Ceux-ci ne sortent pas toujours facilement, s'accolent aux dents, aux lèvres, et le malade, qui a très peu de force pour faire une expectoration violente, doit, parfois, les arracher de la bouche, avec ses doigts.

L'auscultation ne m'a jamais fait entendre, dans la poitrine, de bruits pouvant faire songer à une pneumonie. Seuls quelques râles et quelques sibilances sont perçus, surtout à la base du poumon. Les crachats gommeux sont probablement dus à de la congestion et à de l'œdème pulmonaires.

Durant l'épidémie de 1896 la fréquence de ces expectorations pneumoïdes fut très considérable. Les missionnaires les ont notées chez plus d'un tiers de leurs malades. Beaucoup eurent des crachats sanguinolents et ne présentèrent pas traces de bubons. Cette année elles ont été rares et je ne les ai vues que deux fois, chez une femme, enlevée en 48 heures et qui ne présenta pas de bubons, et chez la fille de cette dernière, morte deux jours après elle, avec bubons dans l'aisselle.

Pendant toute cette période d'état le bubon continue à augmenter de volume. Dans tous les cas que j'ai observés il n'a présenté aucune trace de fluctuation. Il avait, simplement, perdu un peu de sa mobilité sous la peau. Celle-ci n'avait nullement été modifiée dans son aspect extérieur. Peut-être, simplement, était-elle un peu plus rouge que normalement.

La suppuration est chose rare. Sur les 92 cas de peste relatés par les missionnaires, pour l'épidémie de 1896, un seul se termina par suppuration de la glande et fut suivi de guérison.

La suppuration s'accompagne, en général, de sphacèle de la peau, sur une étendue plus ou moins considérable, et, lorsque la plaie purulente a été bien détergée, il peut rester, sur l'emplacement du bubon, une cavité de la dimension du poing. La suppuration n'a pas le temps de se produire, le plus souvent, tant la mort est précoce.

Celle-ci, ordinairement, est survenue en 36 ou 48 heures.

La fin arrive peu à peu, par extinction progressive. La température reste élevée, jusqu'au dernier moment. Un vieillard, mort un matin, pendant que nous l'examinions, avait à ce moment 41°.1. Le pouls, très accéléré, devient impossible à compter, surtout à cause de la faiblesse des battements.

Quelquefois, une diarrhée verdâtre, des vomissements, ont devancé la mort de quelques heures.

En général, les malades s'éteignent, sans cris, ni gestes. La peau, qui pendant toute la maladie n'avait présenté aucune tache, devient, souvent, après la mort, ecchymotique au niveau des bubons.

La décomposition cadavérique, même quand la chaleur n'est pas vive, est très rapide.

Il eût été intéressant de faire l'autopsie de quelques corps. Mais les Chinois sont absolument réfractaires à ces expertises.

La durée moyenne de la maladie, depuis l'apparition des premiers symptômes, n'a pas dépassé trois jours. Seuls, les malades à qui j'ai pratiqué des injections de sérum antipesteux ont duré un peu plus longtemps que les autres.

La peste, cette année, a été bénigne; la morbidité n'a guère été que le septième de ce qu'elle fut en 1896. La mortalité a été de 100 p. 100. Un médecin chinois, que j'ai vu, prétend, grâce à l'emploi de pommades de sa fabrication, avoir guéri six cas de peste. Je n'ai accepté cette affirmation que sous toutes réserves, estimant que les heureux résultats thérapeutiques obtenus par notre confrère, tiennent moins aux effets de sa drogue qu'à une erreur de diagnostic quant à la maladie exacte de ses patients.

Le traitement que j'ai suivi a consisté en purgations par le calomel et injections de sérum de Yersin. J'ai déjà parlé plus haut des bons effets donnés par le calomel.

Le sérum de Yersin n'a donné aucun résultat. La seule action, bien nette, que j'aie pu constater, a été un retard dans la survenue de la mort et un léger abaissement de la température. Chez un de mes malades (fig. 1), il se produisit, pendant 12 heures, une amélioration qui me fit, momentanément, espérer la guérison. Non seulement la fièvre avait notablement diminué, mais un souffle râpeux, perçu au premier bruit de l'artère pulmonaire, avait disparu.

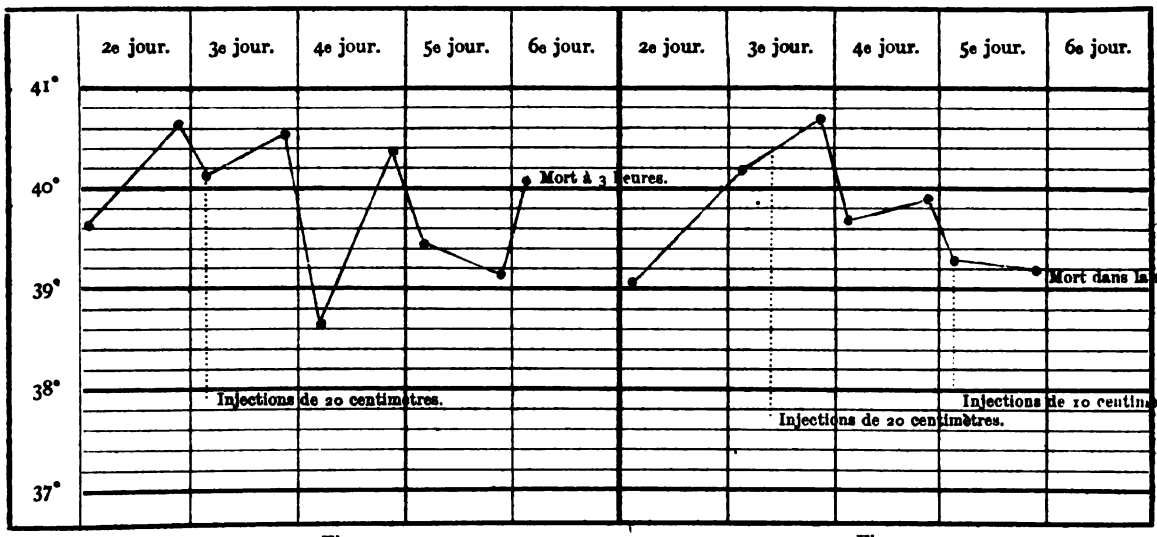


Fig. 1.

Fig. 2.

Le sérum dont je me suis servi était trop vieux, et aussi, peut-être, n'aurais-je pas dû me contenter de faire des injections de 10 ou 20 centimètres cubes seulement (fig. 2). Mais je ne disposais que de 17 flacons de 10 centimètres cubes. Ce sérum est le même que celui qui a été employé à Bombay, où il n'a pas donné les résultats remarquables qu'obtint, l'an passé, à Amoy, Yersin avec le sérum préparé à Na-t'rang (Annam).

Les conditions dans lesquelles je me suis servi de ce spécifique étaient trop mauvaises. Mais je suis convaincu que l'an prochain, en employant du sérum frais, venant de l'Indo-Chine, on en obtiendra des effets excellents.

La limite des besoins, très restreints dans la vallée de Sô-leu-kô, a été jusqu'ici le meilleur obstacle à la propagation de la peste. Ces Chinois sortent peu de leur vallée, les produits du sol suffisant à leur alimentation. Mais, tous les ans, la population augmente et partant les besoins; aussi, sous peu, faudra-t-il que des relations s'établissent, d'une façon courante, avec les grands centres commerciaux, qui se trouvent aux environs.

Ces communications pourront être le meilleur facteur dans l'extension de la maladie. Les Chinois, auront, sous peu, des précautions à prendre, pour l'empêcher de gagner Tientsin et Pékin. Mais l'Europe pourra, elle aussi, être bientôt intéressée par le rôle de ce nouveau foyer de peste en Extrême-Orient.

De la vallée de Sô-leu-kô la peste pourrait arriver en Russie. À 120 ou 150 kilomètres, au sud-ouest de Toung-kia-yng-tze, se trouve un grand centre commercial, Lama-Miao. D'accès facile, grâce à la route du plateau de Mongolie, Lama-Miao est un marché très fréquenté par les marchands russes, mais surtout a de très importantes relations avec Kalgan, situé à quatre jours de distance, dans la direction du sud-ouest. C'est à Kalgan qu'arrivent tous les thés, les peaux, qui, par le désert de Gobi, Ourga, Kiakta, Irkoutsk, gagnent la Russie. Le jour où des cas de peste se produiront à Kalgan, la Russie sera sérieusement menacée.

Peut-on espérer détruire le foyer de peste existant dans la vallée de Sô-leu-kô? Le seul remède serait de brûler les maisons et les habits des habitants, le tout ne représentant qu'une valeur bien minime. Et encore ce moyen ne serait-il pas suffisant, les cercueils à fleur de terre, dont nous avons parlé, restant des réceptacles de germes.

La désinfection des habits pourrait se faire partiellement par l'ébullition, celle des maisons par l'eau de chaux et l'acide sulfureux. Mais ce sont là choses qui, de longtemps encore, ne seront pas pratiquées, à cause de la bestiale routine des Chinois, qui ne voudront ou ne pourront en comprendre la nécessité.

OBSERVATIONS.

Je donne quelques observations des malades que j'ai pu suivre de très près.

OBSERVATION I.

Je suis appelé, le 27 août, dans l'après-midi, auprès d'une jeune fille de 18 ans, de tempérament assez délicat, peu développée pour son âge, malade depuis trois jours.

Sa mère est morte il y a deux jours, de la peste. Elle n'avait pas de bubons, mais avait des crachats pneumoïdes.

La maladie de cette jeune fille a débuté par de la céphalalgie, de l'abattement, du malaise général, de la fièvre. Elle a pu, cependant, marcher, encore, pendant deux jours, bien que le mal empirât. Elle a dû se coucher hier dans l'après-midi, à bout de forces. Elle ne parlait pas ou peu, tant elle était abattue, se plaignait de courbature, surtout dans les côtés.

Au moment où je l'examine, elle est dans un état de torpeur profonde; les yeux sont fermés; elle pousse des cris inarticulés; répond à peine aux questions et se plaint de prostration.

La langue est rouge, sèche et blanche; les lèvres et les dents sont légèrement fuligineuses. Bien que la bouche soit sèche, la malade n'est pas très altérée. Le pouls est rapide, faible, 136 Pas d'épistaxis, pas de vomissements.

La malade est, par quintes, secouée par la toux et expectore quelques crachats gommeux, rougâtres, rappelant ceux de la pneumonie.

Peau sèche; pas de taches sur le corps, si ce n'est deux ou trois placards ecchymotiques, résultat de frictions énergiques, faites avec du vinaigre. Température, 40°.1. Le cœur a le caractère fœtal; pas de bruits anormaux. Au poumon, on entend quelques râles de congestion. La rate et le foie sont normaux.

L'urine est claire et ne contient pas d'albumine.

Dans l'aisselle droite, on trouve une tumeur ayant les dimensions d'une petite noix, mobile sous la peau, très douloureuse à la pression.

Les ganglions des autres régions paraissent indemnes. Cependant, dans l'aine gauche, ils sont un peu plus sensibles que dans celle de droite.

Une injection de 10 centimètres cubes de sérum est faite à 2 heures et demie. La malade prend aussi un gramme de rhubarbe.

La nuit, elle est plus assoupie; les crachats et la toux diminuent.

Elle se sent mieux, le matin du 28, puis, brusquement ses forces diminuent de plus en plus et elle s'éteint, doucement, sans vomissements, sans diarrhée, sans convulsions vers midi.

Observation II.

Enfant de 12 ans, malade depuis le 29 août au soir. Trois personnes sont mortes, depuis trois jours, dans la maison voisine, de la peste.

Le mal débute, dans l'après-midi, par une douleur dans l'aine gauche, douleur pas trop violente, mais exagérée par le mouvement. Peu ou pas de fièvre. Pas de phénomènes généraux; ni céphalalgie, ni vertiges. A dormi sans rêves.

Lorsque je le vois, le 30 au matin, il se plaint simplement de douleurs à l'aine gauche, quand il se remue.

La langue est large, blanche, humide. Les yeux sont légèrement injectés. La peau est sèche et chaude. Il tremble un peu. Ne tousse pas, ne crache pas. Pouls, 136; température, 39°.8. Les bruits du cœur sont bien frappés; presque violents. On perçoit au premier bruit, à la base, un souffle râpeux. Rien au poumon. Foie et rate normaux.

Tous les ganglions de l'aine gauche sont douloureux à la pression. L'un d'eux a déjà le volume d'une noisette; mobile sous la peau.

40 centigrammes de calomel.

Dans l'après-midi il commence à souffrir de la tête; les vertiges font leur apparition. La céphalalgie n'est pas très forte. Quelques vomissements. Température, 40°.6.

L'enfant dort la nuit; sommeil agité.

Le 31, à 9 heures du matin, il est très abattu. Œil légèrement injecté; pas de photophobie. Céphalalgie violente; battements aux tempes; brisement dans la tête. Les vertiges ont augmenté.

La langue et les lèvres sont sèches. La peau est brûlante et sèche. Battements du cœur très violents; souffle très accusé. Pouls, 124.

Il tremble un peu. Température, 40°.3.

Le ganglion est plus volumineux, très douloureux à la pression. Un deuxième ganglion, du volume d'une noisette, douloureux à la pression, est perçu au-dessus et un peu en dehors du précédent. On n'en trouve pas ailleurs que dans l'aine gauche. La peau ne présente aucune modification au niveau des ganglions engorgés.

Le foie et la rate sont normaux.

L'urine est claire, jaune, assez abondante, non albumineuse. La miction est douloureuse: ténesme et brûlure.

Une injection de 20 centimètres cubes de sérum est faite à 10 heures. Température à midi, 40°.7. L'enfant prend aussi 40 centigrammes de calomel.

À partir de midi, il commence à délirer, s'agite, jusque vers 2 heures, puis est très abattu. À 4 heures, quand je le revois, il est dans une torpeur semi-comateuse, ne répondant pas aux questions.

La peau est brûlante et sèche: température, 40°.8. Dyspnée: 40 inspirations à la minute. Cette dyspnée n'est pas bruyante, les inspirations sont douces, mais très courtes. Pouls, petit et

rapide, 136. De temps à autre, l'enfant a de petites contractions musculaires; pousse de petits cris. Il est impossible de le tirer de sa torpeur.

Il reste dans cet état, jusque vers 2 heures du matin, et, à partir de ce moment, revient peu à peu à lui. La fièvre se calme un peu. Il va à la selle: les matières sont noires et ont une odeur fétide. Il a uriné une ou deux fois.

Le 1er septembre, à 8 heures du matin, le malade ne souffre pas. Il se sent seulement très abattu. Il répond bien aux questions.

La peau est moins sèche: température, 38°.8. Le pouls est mieux frappé qu'hier: 120. La langue est blanche et humide. Les battements du cœur sont moins violents. Le souffle râpeux du premier bruit de la base ne s'entend plus. Le poumon est en parfait état. La peau ne porte aucune tache.

30 centigrammes de calomel. Infusion de gingembre, dans l'après-midi.

L'après-midi est bonne. Mais, à l'entrée de la nuit, la fièvre se montre de nouveau, 40°.5, avec céphalalgie, courbature; vomit un peu, transpire à peine, malgré l'infusion de gingembre. Pas de selles. A uriné plusieurs fois. N'a pas bien dormi. Sommeil agité; parle dans son rêve. Ne s'est pas plaint de son bubon.

Le 2 septembre, à 8 heures du matin, il répond assez bien. Il se remue seul. Pouls, petit et rapide, 136; température, 39°.7. Dyspnée, comme hier. Peau moins sèche; plus souple. La langue est rouge et sèche. Peu de fulignosités aux lèvres. Se plaint de courbature générale. Inappétence; ne prend que de l'eau chaude et du thé.

Poumon, foie, rate normaux.

Le bubon a augmenté et fait une saillie à grand axe oblique de haut en bas et de dehors en dedans, de la grosseur d'un petit œuf de poule. Il est peu douloureux à la pression. La peau ne présente aucune modification à son niveau.

Bruits du cœur bien frappés. Le souffle a disparu. Cœur légèrement fœtal.

40 centigrammes de calomel, celui qui a été pris hier n'ayant produit aucun effet.

L'après-midi est calme; température, 39°.1. À l'entrée de la nuit, s'agite, veut se lever; carphologie. Pas de vomissements, pas d'épistaxis. Nuit très agitée.

Le 3 septembre, à 9 heures, il répond mal; subdélire. Il ne peut dire de quoi il souffre. Il se plaint seulement de vertige. Carphologie. Il marmotte entre ses dents. Peau chaude, mais un peu moite. Langue rouge et sèche. Peu de fuliginosités. Yeux légèrement injectés.

N'est pas allé à selle depuis 48 heures. Ventre souple, non douloureux à la pression.

Rate et foie non augmentés de volume. Cœur fœtal. Bruits moins bien perçus: pouls, petit et très rapide, 160, légèrement dicrote. Température, 40°.1. Dyspnée et respiration irrégulière: 40.

Le ganglion de l'aine soulève la peau, formant une tumeur du volume d'un œuf de poule. Peu douloureux à la pression. A perdu sa mobilité. Pas de traces de fluctuation. Au-dessus du pli inguino-crural, un ganglion gros comme une noix est maintenant facilement senti et visible: il est dur et peu mobile et plus douloureux que le précédent.

10 grammes d'eau-de-vie allemande. Injection de 0.25 de caféine. Mort dans l'après-midi.

Observation III.

Homme de 81 ans. Sa fille, son fils et son petit-fils sont morts, pendant l'épidémie de 1896, dans la maison qu'il occupe. Il a toujours eu une bonne santé. Était très robuste. Maintenant, il est usé. Il est venu hier, 28 août, à la messe et s'est tout à coup senti malade; dans l'après-midi: courbature générale, vertiges, douleurs dans les membres et surtout dans les côtés. Se plaint aussi d'une douleur dans l'aisselle gauche.

Je le vois le 29, à 4 heures. Il est couché, incapable de se mouvoir, en proie à une fièvre très forte. Il tremble et se plaint d'une sensation générale de froid. Température, 40°.8. Le pouls est bien frappé, 99.

La langue est blanche. N'est pas allé à selle depuis deux jours. Céphalalgie, douleurs dans les côtés et surtout dans l'aisselle. Ces douleurs sont spontanées et exagérées par la pression, les mouvements du bras.

La peau est sèche. Les yeux sont légèrement injectés.

Dans l'aisselle, on voit, en un point, la peau un peu rouge et, au-dessous, on trouve un ganglion, mobile encore, gros comme une petite noix, très douloureux à la pression. L'aisselle droite est indemne. Les ganglions inguinaux sont légèrement sensibles à la pression du côté droit. Pas de douleur derrière l'oreille, ni spontanément, ni à la pression.

Les bruits du cœur sont, à peine, perçus à l'auscultation. Dyspnée légère: mais il ne tousse, ni ne crache.

Foie et rate normaux. Aucune tache sur la peau. Injections de 20 centimètres cubes de sérum.

La température, deux heures après, était tombée de 1°.

La nuit fut, relativement, calme.

Le 30 au matin, quand je revins à 9 heures, je le trouvais avec une température très élevée, et le malade mourut, sans convulsions, sans pousser le moindre soupir, pendant que je lui prenais la température. Le thermomètre était encore à 41°.2.

Le ganglion n'avait pas progressé. Il n'avait pas eu de diarrhée. N'avait pas eu d'expectoration pneumoïde.

Observation IV.

Garçon de 21 ans. Sa mère est morte de la peste, il y a trois jours. La maladie avait duré quatre jours et s'était compliquée de bubons. Son père est mort, il y a quatre à cinq jours. Il a été malade trois jours, avait des crachats gommeux sanguinolents, une diarrhée noire verdâtre, striée de sang, à odeur très fétide. Il y a quatre jours, est également mort dans la même maison, un garçon de 22 ans, ouvrier comme lui.

Hier au soir, il était bien portant. Pendant la nuit, il s'est senti indisposé: malaise général, céphalalgie, vertiges, nausées.

Je le vois le 30 août, à 10 heures. Il est abattu, mais peut marcher. Se plaint de mal de tête, de courbature générale. N'a pas de violentes douleurs dans les cuisses, dans les côtés. A de très forts vertiges et titube en marchant.

L'œil est un peu mort. La langue blanche, large, humide. Bourdonnements d'oreille. Pas d'appétit.

Pouls bien marqué, 100. Peau chaude et légèrement moite: température, 39.

Son état est celui de l'embarras gastrique fébrile.

N'est pas allé à la selle depuis 24 heures. Il prend 0.40 de calomel. Cœur, foie, rate, poumons sont en parfait état.

Les ganglions inguinaux sont très mobiles, très facilement sentis sous le doigt. Non douloureux.

L'après-midi est assez bonne; moins de vertiges. Dort bien, mais rêve pendant la nuit. Pas de vomissements. Le calomel fait peu d'effet.

31 août, à 8 heures. Très courbaturé. Il peut cependant encore marcher un peu. Les membres sont brisés. Les pieds lui font mal quand il marche. Vertiges violents. Bourdonnements d'oreilles.

La langue est large et blanche. La peau est chaude et sèche. Il n'a pas transpiré. Température, 40°.1; pouls, 108. L'œil n'est pas injecté. Un peu de surdité. Les ganglions ne sont pas douloureux.

Il prend, de nouveau, 0.40 de calomel.

Vers 11 heures, il doit se coucher, tant les vertiges sont forts. Vers 4 heures il est dans un état de prostration profonde. Céphalalgie, vertiges, douleurs aux lombes et dans les côtés. Peau sèche et brûlante: température, 40°.8.

Toute la nuit ces douleurs ont persisté. Il n'a ni vomi, ni saigné du nez. A eu des selles diarrhéiques, jaunes, fétides. A uriné plusieurs fois. La miction est douloureuse.

Le 1er septembre, à 9 heures, il est très abattu. La langue, les dents, les lèvres sont fuligineuses. Les yeux peu injectés; les paupières légèrement collées par du muco-pus desséché. Pas de photophobie. Obnubilation légère de la vue. Bourdonnements d'oreille.

Dans l'aine, des deux côtés, la peau est soulevée par des ganglions tuméfiés, du volume d'un œuf de pigeon, surtout à gauche. La peau n'est pas rouge. Ces ganglions ne sont douloureux, ni spontanément, ni à la pression, tandis que dans l'aisselle gauche, les ganglions, qui ne sont pas augmentés de volume, sont spontanément douloureux.

Pouls, 100; température, 39°.6. Au cœur, le premier bruit de la pointe est sourd, et parfois on perçoit un dédoublement du deuxième bruit, à la base. Rate et foie normaux.

0.40 de calomel. Injection de 20 centimètres cubes à 9 heures et demie.

Urine rouge, non albumineuse. Quelques dépôts uratiques peu abondants.

L'après-midi a été peu agitée. Il a même dormi. Température, 39°.9. Deux selles jaunâtres, fétides. Pas de vomissements; pas d'épistaxis. La nuit est assez bonne: sommeil avec rêves.

Le 2 septembre, à 8 heures et demie, il se sent mieux. Œil légèrement sub-ictérique. Dents et lèvres moins fuligineuses. La langue est rouge et sèche. Il répond et entend mieux qu'hier.

Les bourdonnements d'oreille persistent. Il se plaint toujours de courbature générale: douleur à la pression, aux mollets, aux flancs.

Le pouls est bon, bien frappé, 100; température, 39°.3. Respiration calme. Le cœur est dans le même état. Foie et rate non augmentés. On pourrait croire ces organes sensibles à la pression. Mais cette sensibilité est superficielle et localisée aux muscles intercostaux abdominaux.

Il n'y a aucune tache sur le corps.

Les ganglions de l'aine ont le même volume. La peau n'est pas modifiée à leur niveau. Mais les ganglions sont douloureux à la pression, ce qu'ils n'étaient pas hier. Les ganglions axillaires, douloureux à gauche, hier, le sont également, aujourd'hui, à droite, où on trouve une glande mobile sous la peau, du volume d'une noisette, très douloureuse à la pression.

Nouvelle injection de 10 centimètres cubes. Calomel 0.20.

Après-midi assez calme. Température, 39°.1. Nuit agitée.

Il meurt, doucement, à 6 heures du matin, le 3 septembre.

Quand je l'ai vu, à 8 heures, le corps ne présentait aucune tache; les ganglions de l'aine avaient le volume d'un œuf.

DR. C. C. DE BURGH DALY'S REPORT ON THE HEALTH OF NEWCHWANG

For the Eighteen Months ended 30th September 1899.

THE general health of the foreign residents during this period may be described as good.

Four births and no deaths were recorded.

There were three cases of typhoid fever, four of pneumonia, one of tuberculosis, two of rheumatic fever, two of jaundice, six of influenza, and the usual number of cases of diarrhœa, dysentery, children's diseases, and minor ailments. The most serious surgical case amongst foreigners was one of fracture of the base of skull, in which recovery took place, with slight facial paralysis.

The healthiness of this port and the fact that there was no death amongst the foreign residents, who number over 150, for 18 months is the more remarkable when the insanitary conditions of the food supply are remembered. The water supply is far from above suspicion; the milk is obtained from two dairies, in both of which there are stinking cesspools full of urine and feculent matter; close to one of these cesspools there is a hole dug, into which the water from the cesspools drains, and this water is used to wash the bottles and cool, if not also to adulterate, the milk. In both places there are brothels; and I have been called on to treat some of the inmates for syphilitic and other venereal diseases. In the yard immediately behind the butcher's shop, animals are kept, manure stored, and there is a heap of old bones about 8 feet high. In one of the milk shops and in several of the comprador's stores cases of bubonic plague occurred, and it is impossible to discover what other cases of illness occur in these shops and in our laundries. The laundries are, if anything, rather worse than those described by Dr. MACLEOD, of Shanghai.

In spite of all these dangers, the foreign residents enjoy good health, while the children thrive and grow up healthy and as strong as home-grown children.

The subject that calls for special notice is the appearance for the first time in this port of bubonic plague.

I may preface my remarks by pointing out that, as far as I can ascertain, bubonic plague had not appeared, at least in epidemic form, for many years past north of Amoy, distant from this port some 1,200 miles. Shanghai, Chefoo, Tientsin, and this port had been in constant communication with Hongkong, Canton, and Swatow during the years plague was epidemic in the southern provinces. No one expected its sudden appearance here, the general opinion being that it would spread gradually up the coast, and that Shanghai and Chefoo would be attacked before Newchwang.

It is impossible to ascertain how the plague was introduced. It is supposed that passengers from the south arrived here either ill or in the incubation stage. In the spring of

every year there is a great influx of passengers from Chefoo and Tientsin, and the southern merchants and their assistants return from Canton, Swatow, and Amoy either by direct steamer or *viâ* Chefoo.

As there is no inspection of steamers or passengers on arrival, there is no record as to the number of passengers that come from the south, or as to how many, if any, died *en route* or arrived here sick.

It may safely be stated that plague broke out here in July 1899. The first intimation I or any of the native or foreign authorities had of its appearance was on the 25th July. On that day a lad of 14 years of age and a youth of 21 were brought to the hospital. I happened to meet them at the gate, and, being much struck with their appearance, immediately examined them. Both had fever and were delirious. The boy was suffering from pneumonia on the right side, and was evidently dying. The youth, who had only been sick for a few hours, was already very ill, and complained of pain in the right groin. The possibility of these being cases of plague at once occurred to me, and on making further inquiries from the uncle of the patients, I elicited the following history.

Two families, his and his nephew's, live in one compound in the village of Wu-tai-tzŭ, which is situated about half a mile outside the south-west wall of this town.

On the 11th July a youth of 19 years of age returned home sick. He was employed in an old clothes shop in the centre of the town. This lad suffered from swellings in the groins, and died on the following day.

This case was followed by seven others, all of them fatal, and all developing buboes in either axilla or groin. The first of these seven cases, the mother of the youth of 19, sickened on the 20th July, eight days after the death of the youth. She died on the 22nd. On the 23rd, a woman aged 21 died; on the 24th, a girl of 18; on the 25th, a girl of 12; on the 26th, a lad of 14; and on the 27th, the youth of 21 years died. In all, eight cases and eight deaths. The friends and neighbours were so struck by the great mortality in these families that they employed the services of a geomancer, who ordered the grave of the first victim to be opened, as he could not have been properly buried. On opening the coffin, behold the body was covered by a thick fur, and the corpse was shedding tears of blood. By orders of the geomancer kerosene oil was poured over the corpse, which was then cremated. One wishes the authorities would appoint this worthy geomancer sanitary officer, to deal with plague corpses. After the cremation "all was peaceful," and no more cases occurred in that house or village. I sent my assistants to make careful inquiries, but no further case was discovered.

I then had inquiries made at the shop where the youth of 19 was employed, but failed to trace the cause of the lad's illness. There had been no other case of sickness in that shop or in the neighbourhood. The shop had had no dealings with steamers, nor had any of the inmates come from the south.

Pursuing my investigations in the west end of the town, after some days I heard of rats dying, and later on deaths were reported as occurring amongst the assistants in the southern merchants hongs. The symptoms in these cases were minutely described to me, and thereafter there was no doubt in my mind as to the existence of bubonic plague, and consequently I felt justified in reporting the outbreak to the authorities. On the 12th August the Consuls

and Commissioner of Customs notified the other ports, and on the 14th August a commission, consisting of four Russian doctors, visited the port, and were soon able to satisfy themselves of the existence of bubonic plague. On the 17th August I was asked to attend a meeting of Consuls, when I submitted a complete scheme for dealing with the outbreak. This scheme was forwarded to the Taotai, who delayed giving an answer, rejecting the scheme until 8th September—a fatal delay, as meanwhile the plague had spread all over the town, to the neighbouring villages, and other towns. People sick with plague travelled by junk to Chefoo and other ports; corpses were exported in large numbers to Chihli and Shantung and to other parts of Manchuria, and a few were sent to Ningpo and Shanghai.

During the month of August the plague rapidly spread from the west to the east end of the town. Two dead rats were discovered in a foreign hong, and a few days afterwards two of the native employés died of plague.

In the early part of September many deaths took place in the houses and shops in close proximity to foreign residences, and about the same time it was noticed that rats, chickens, ducks, geese, pigs, dogs, deer, and cattle were dying in unusually large numbers. In one of the dairies four cows and two calves died.

To make matters worse, plague corpses were stored in a mortuary situated in the centre of the Settlement, and hundreds of corpses were deposited on the ground outside and inside the wall, within 200 yards of foreign houses.

By the end of September the plague had reached towns 24 miles south-east, 17 miles north-west, and 40 miles north-east of this port, and there is every reason to believe that it was spread by people sick with plague being taken to their homes in those towns or by the corpses of those who had died of plague being taken home for burial.

In spite of all these dangers, not a single foreigner was attacked in this Settlement. Unfortunately, two Russians who were travelling in the interior were attacked, and afterwards three more, and of these five cases three ended fatally in the early days of October. I may add that the Russian Settlement is about 3 miles farther up river than this Settlement.

Such is the history of this outbreak up to the end of September. It will be interesting to see if the extreme dry cold will stamp the plague out or only check its career, to be continued with renewed vigour in the spring. For my part I anticipate it will spread throughout Manchuria, as I believe it is too late to stay its course.

By a stroke of good luck the early cases of plague were discovered, and a great opportunity afforded of limiting its spread; but, alas! it was absolutely impossible to make the Chinese authorities realise the necessity of prompt and energetic measures.

From a medical point of view there are not many points of special interest to record. The symptoms and course of illness were the same as elsewhere. About 2 to 3 per cent. of the population were attacked, and of these about 80 per cent. died. Adult males were attacked in greater proportion than either women or children. Buboes were absent in many cases, and the lungs were attacked. A merchant told me that he had noticed a bad smell in his room; his servant discovered a dead rat, took it up in his hand, and carried it out of the house. Next day the servant was attacked, and died with buboes in the axilla, after two days illness. A monkey, kept by a foreigner, sickened and died. During its illness it was attended to by an English lady

and a Chinese servant. The servant buried it, and five days afterwards was himself attacked with symptoms of plague, and died after two days illness. The Chinese here take absolutely no precautions against infection. They willingly nurse their sick and sleep on the same *k'ang*, and never think of even washing their hands after attending to the sick or dead.

Before concluding this Report I would once more urge on the Chinese and foreign authorities, and all those engaged or interested in the trade of Newchwang, the necessity of devising and enforcing temporary and permanent sanitary measures. Otherwise, I foresee a heavy death roll amongst the residents, both native and foreign, and temporary, and probably permanent, injury to the trade of the port.

DR. H. RENNIE ROBERTSON'S REPORT ON THE HEALTH OF TIENTSIN

For the Twenty-one Months ended 30th September 1899.

THE health of the foreign community of Tientsin for the period under review was satisfactory. No epidemic of any severity has visited the port. We may regard ourselves as fortunate at being still free from plague, and the death rate may be considered low.

During the summers of 1898 and 1899 a very large proportion of the foreign residents have migrated for the hot months to Peitaiho; in fact, so far as ladies and children were concerned, Tientsin was virtually deserted. During the summer of 1898 there were hardly any cases of sickness amongst the visitors to Peitaiho, and an almost clean bill of health might have been given for some 300 souls. An accident, however, which might easily have proved fatal to two children, occurred through the falling in of a badly constructed roof; one little girl of 3 years of age was buried beneath the *débris*, which was so great that at first it appeared impossible for her to be dug out alive. On being extricated she was found to have severe injuries to her skull, the petrous portion of the temporal bone being depressed to such an extent as to appear at first almost hopeless. Before preparations could be made ready for operation, it was noticed that the depression was naturally being reduced, and, thanks to the child's age, the bone gradually expanded until it was impossible to trace any signs of the depression, and complete recovery ensued. During the summer of 1899, however, the roll of health has not been so clean. Four deaths occurred—all from the same cause, dysentery; two of these cases happened in the same house and were adults, the other two being children, one at Rocky Point and one at the West End. Eight births have to be recorded during the summer season.

Much has been done to develop Peitaiho during the past two years, and from its position and natural surroundings it is probably the most ideal health resort in China; but much has been left undone hitherto in the way of hygiene. So far there has been no coalition amongst the householders with reference to sanitary affairs. Fortunately, however, these matters have now been taken in hand by an energetic committee, whose business it will be to remedy the existing evils, arrange for the proper sanitation of the different Settlements, supervise the water supply, and make arrangements for an ample provision of ice, meat, and vegetables during the summer months.

The Victoria Jubilee Hospital is now completed and proving itself a very useful institution. It consists at present of four private wards, three of which are in use and beautifully furnished by kind donations. A larger ward, of eight beds, is also equipped and ready for use. Quarters for a matron and second nurse, a dispensary, and verandahs complete the building.

The Tientsin Waterworks Company has also completed its object, mains having been laid and filter beds erected, so that now an abundant supply of clean water may be obtained at a very moderate cost. This water is of course not fit for drinking purposes unless first boiled and filtered. In my next Report I hope to be able to publish an analysis of the water supplied.

Meteorology.

The chief points calling for comment in the above period are (*a.*) the unusual mildness of the winter 1898–99, for during the memory of the oldest foreign residents in the port the season was the mildest ever experienced, and the Peiho was free of ice almost in its whole extent, while the atmosphere was not nearly so dry as is usually the case; and (*b.*) the extremely dry summer of 1899. Making a comparison of the rainy months for the past five years, we find the total rainfall for July, August, and September was as follows:—

1895.	1896.	1897.	1898.	1899.
Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*
6.89	16.22	17.19	14.16	6.77

Meteorological Table, January 1898 to September 1899.

Month.	Barometer.	Rainfall.	Thermometer.		Month.	Barometer.	Rainfall.	Thermometer.	
			Max.	Min.				Max.	Min.
1898.	*Inches.*	*Inches.*	° *F.*	° *F.*	1899.	*Inches.*	*Inches.*	° *F.*	° *F.*
January	30.628	...	36	23	January	30.362	0.25	34	21
February	30.221	0.09	39	29	February	30.415	0.08	40	28
March	30.254	0.13	41	32	March	30.229	0.77	50	41
April	30.063	0.33	68	55	April	29.024	1.18	65	56
May	29.491	0.12	82	71	May	29.813	1.50	82	71
June	29.729	0.59	89	78	June	29.665	1.20	90	78
July	29.633	3.67	88	79	July	29.620	3.64	89	80
August	29.784	6.75	83	76	August	29.724	3.09	89	77
September	29.984	3.74	74	68	September	29.866	0.04	82	71
October	30.030	0.10	66	58					
November	30.315	0.36	49	43					
December	30.212	...	39	28					

Temperature of River (Peiho) Water, January 1898 to September 1899.

Month.	Average Maximum.	Average Minimum.	Average.	Month.	Average Maximum.	Average Minimum.	Average.
1898.	° *F.*	° *F.*	° *F.*	1899.	° *F.*	° *F.*	° *F.*
January	37	20	33	January	37	15	33
February	38	23	32	February	40	23	33
March	41	26	36	March	52	31	43
April	65	46	50	April	69	47	55
May	80	63	66	May	80	54	68
June	88	70	75	June	94	67	75
July	87	71	79	July	85	72	88
August	82	70	80	August	78	70	60
September	82	63	70	September	77	60	72
October	63	49	60				
November	50	38	41				
December	36	29	32				

Vital Statistics.

As no census has been taken of the foreign population of Tientsin, it is impossible to give the death rate per 1,000.

There have been 18 deaths amongst the foreign community. The following were the causes:—

Acute jaundice	1	Suicides	2
Apoplexy	1	Drowning	1
Typhoid fever	1	Bright's disease	1
Dysentery	2	Paralysis	1
Meningitis	1	Acute meningitis	2
Graves disease	1	Scarlet fever	1
Heart disease	2	Atheroma	1

There have been 40 births. Of these, 25 were male; 15, female; and 3 were stillborn.

Infectious Disease.

The autumn of 1898 was marked by an epidemic of typhoid. The cause of this outbreak has never been satisfactorily traced; some have attributed it to milk, whilst others blame it to the conditions prevailing at the time, owing to the streets being laid open for the introduction of the water pipes by the Tientsin Waterworks Company. The type of typhoid was of a mild character, and only one case ended fatally. This was a case of a lady only recently recovered from childbirth and in a markedly unfit state to withstand an attack of typhoid. From the first her temperature and pulse were such as to indicate a bad prognosis. This case was also complicated by the presence of ascaris lumbricoides; and I would venture to suggest as a useful routine practice a dose of santonine at the commencement of suspected cases of enteric fever. No harm can be done, and the aggravation of symptoms by the presence of these worms may be avoided. This was the first case of typhoid fever which I have seen that was in no way benefited by cold sponging or ice-water compresses. Although cold affusions to the body were tried in every form, the temperature could be in no way controlled by them.

Small-pox.—Four cases have come under my care. In each of these I have tried the effect of the orange rays, so far as that could be roughly produced by paper on the ward windows. The beneficial effect in two cases was wonderfully marked, and in the other two was highly satisfactory. I would like to mention the excellent results which I have had from using the Shanghai vaccine, as prepared under the direction of Dr. Stanley, the Health Officer at that port.

Dysentery.—This disease has not been so generally prevalent as in former years, although five deaths have occurred during the past summer; of these, four took place in Peitaiho.

Plague.—Tientsin has so far been fortunate in escaping from this disease. During the past months the possibility and great probability of plague entering Tientsin *viâ* Newchwang has been exercising the attention of the authorities, and the Commissioner of Customs, Mr. Drew, has, with commendable zeal and celerity, done all that was possible to prevent the

introduction of this terrible scourge into our midst. Thanks to the representations addressed by the Consular body to the Viceroy, permission was granted and funds were issued by the Taotai, enabling the Commissioner of Customs to establish a quarantine station at Taku, under the supervision of a foreign medical officer. Dr. LESLIE was placed in charge, assisted by Dr. KWAN, and later on Dr. LOWRY succeeded Dr. LESLIE. Sanitary and quarantine regulations were issued, of which I append a copy. A systematic inspection of junks from Newchwang was strictly carried out, and it is satisfactory to know that thus far Mr. DREW'S exertions have been rewarded by the port continuing to have a clean bill of health so far as plague is concerned.

GENERAL SANITARY REGULATIONS FOR THE PORT OF TIENTSIN.

It has been determined by the Superintendent of Customs, with the concurrence of the Treaty Power Consuls, that the following Regulations shall be instituted for the sanitary protection of the port.

1.—When any infectious disease is known to be prevalent at any port from which vessels may be expected to arrive at Tientsin, the Superintendent of Customs will, with the concurrence of the Treaty Power Consuls, issue a proclamation declaring such place infected, and the Harbour Master will thereupon put in force the following Regulations.

2.—Any foreign or Chinese vessel coming from an infected port shall hoist the quarantine flag at the fore on approaching the Outer Anchorage, and shall proceed in and come to anchor at the Quarantine Anchorage, within the mouth of the river between the Taku Forts and the village of Yü-chia-pu, at the place designated by the Harbour Master or his deputy.

3.—Such vessel shall hold no communication with the shore—*i.e.*, from the time of her approach to the Outer Anchorage no passenger or member of the crew shall be allowed to leave the vessel, no person may go on board her, and no baggage or cargo may be removed, without the permission of the Health Officer or his deputy.

4.—The Health Officer will board the vessel on her arrival at the Quarantine Anchorage without unnecessary delay, and will inspect her passengers and crew. His hours for the performance of this duty will extend from 7 A.M. to 6 P.M. daily, Sundays and holidays not excepted.

As it is difficult to establish the port of departure of Chinese vessels, it will be necessary for all junks arriving at Taku to be visited by a quarantine officer, and measures will thereupon be taken according to the circumstances of each case.

5.—If as a result of inspection the Health Officer finds no case or suspicious case of infection, the vessel concerned shall be admitted to immediate pratique.

6.—Should there be a suspicious case, or should the vessel be found an infected vessel, her treatment will be as follows:—

(*a.*) Should there be a suspicious case, the suspected persons will be removed and isolated under the direction of the Health Officer, and the vessel concerned will be placed in quarantine until the nature of the disease is determined, when the vessel will either be admitted to pratique or pronounced infected, according to circumstances.

(*b.*) Should the vessel be infected, measures will be taken for the removal and isolation of infected persons, the removal of infected bodies, and the disinfection of the vessel; and quarantine will be imposed for a period not exceeding 10 days from the date of the removal of the last infected case, or from the time of the disinfection of the vessel.

(*c.*) Vessels from plague-infected ports will not be admitted to pratique until after a detention of 48 hours or of 48 hours less the time occupied on the voyage.

7.—The Health Officer's report shall be made out in triplicate in every case, and, if the vessel be foreign, one copy shall be supplied by the Health Officer by the first opportunity to the Consul of the vessel concerned. If the vessel be Chinese, the Health Officer's report will be sent to the Commissioner of Customs, for communication to the Superintendent.

8.—Any person who commits a breach of these Regulations will be dealt with by the authority to whose jurisdiction he is amenable.

9.—The Superintendent of Customs and the Health Officer will select a suitable place near the Quarantine Anchorage and provide for the comfortable accommodation of persons who arrive suffering from infectious disease.

J. H. J. SUSEMIHL,
Harbour Master.

HARBOUR MASTER'S OFFICE,
TIENTSIN, *August* 1899.

Approved:
E. B. DREW,
Commissioner of Customs.

Too much praise cannot be bestowed on the Commissioner of Customs for the prompt manner in which he established the quarantine station at Taku. As Dr. STANLEY, in his health report on Shanghai, remarks: "Our greatest safeguard against plague is to put our house in order and to guard our gates." Now that railway communication with Newchwang will shortly be effected, it will be necessary to take further steps to prevent the introduction of plague by the overland route. Tientsin once infected, Peking is almost certain to follow suit; and one can hardly imagine anything more favourable for the spread and ravages of this disease than the centres of the filthy and foul native cities in Tientsin and Peking.

Cholera has been virtually unheard of during the period under review.

Scarlet Fever, Whooping-cough, and Chicken-pox have occurred amongst the Foreign children.

MALARIA.

The number of cases met with have been much fewer than in previous years. This, I think, may be accounted for by the improved surroundings of the port, chiefly in the Extra

Concession, where the stagnant ponds and puddles have gradually disappeared, having been filled in for building purposes. Doubtless many of these puddles were the home and breeding-ground for the malaria-bearing mosquito genus *Anopheles;* and it is worthy of remark that what Surgeon-Major Ross, in his first lecture to the section of tropical medicine in University College, Liverpool, suggested as a possible way of extirpating malaria from certain localities is taking place around our port.

Operations.

Among those performed have been removal of various forms of tumours; removal of hæmorrhoids; amputations; necrosis; removal of tonsils; tapping of pleuritic effusions; paracentesis; for strictures.

DR. JOHN FRANCIS MOLYNEUX'S REPORT ON THE HEALTH OF CHEFOO

For the Half-year ended 30th September 1899.

IN my last Report* attention was drawn to the prevalence during the latter part of September 1898 of intestinal hæmorrhage; again this year we have experienced a somewhat similar but more grave visitation. Upon its first outbreak I interviewed the late Dr. DOUTHWAITE (whose untimely death after long, skilful, and generous service to both foreigners and Chinese alike this port has to deeply deplore). Dr. DOUTHWAITE stated that in the China Inland Mission schools he had in the past occasionally met severe but rarely alarming cases. He described the condition as "colitis," pointing out the absence of some marked dysenteric symptoms and especially noticing the characteristic fetid odour of the stools. He further pointed out that in his experience relapse was very common, and that an attack often lasted over a period of many weeks. Less than a month after our first interview my lamented colleague died of the same malady which he had so carefully investigated.

Three very severe cases have been under my care. Two are now convalescent (adult female, aged 19; male child, aged 7), but in each instance there was very grave danger, and convalescence was long deferred.

The third case terminated fatally after about three weeks illness. The patient was an adult male, aged 52, of very powerful build and fine physique generally. An irregular diarrhœa, one day more, one day less, ushered in the attack. The first stool seen by me contained blood in quantity, and the patient was at once sent to bed. There was no tenesmus, no temperature, no pain. 35 grains of ipecacuanha powder was exhibited, after which he passed the only satisfactory motion seen during his illness. Two days later I repeated the ipecacuanha in the form of the fluid extract, giving a full dose.

The bowel was washed with tannic acid in warm water (3 grains to an ounce), ordinarily twice a day. Later, hazeline was injected into the bowel in place of tannic acid. Both, beyond lessening the frequency of evacuations, had apparently little effect upon the hæmorrhage, which became so alarming that I had to use hæmostatics in large doses—diluted sulphuric acid, tincture of opium, and extract of liquid ergot in combination (the opium against my will, but it was necessary),—and later, after the case had been seen by the senior fleet surgeon on the station (Dr. SIBBALD), hypodermic injections of ergotin were administered. Cold compresses (the port had run out of ice supply) had no effect. Strychnia and other cardiac stimulants were exhibited as the pulse became somewhat intermittent. On the 15th October I found the patient at midday somewhat delirious, and was informed that he had been so for some hours. He was seen at 10 P.M., and the pulse was fairly good; between midnight and 1 A.M. I was hurriedly sent for and found the patient *in articulo mortis*—pulseless, and covered with a profuse cold

* Customs *Medical Reports*, lvii.

sweat. Strychnine and brandy were hypodermically given, but without effect, and the patient died in about two hours.

The sudden collapse was due to a fresh and most extensive hæmorrhage. After death, during the preparations for encoffining the deceased, large blood clots were found beneath him, and, upon being moved, blood in extraordinary quantity was extruded. That extensive hæmorrhage was going on had been obvious for some days; but in my experience at Ningpo in 1894, when the Chinese camp suffered from dysentery at Chinhai, and hundreds passed through my hands, I have seen no hæmorrhage to compare with this case. Throughout the attack there was never any symptom or indication of perforation or peritonitis.

A fatal case of "colitis" occurred in the China Inland Mission boys school. Dr. DOUTHWAITE found a tear in the colon, which had been caused during convalescence by the child indiscreetly getting up quickly and walking across the room.

In my two severe cases (now convalescent) I found that so soon as the motions became at all hardened there was a consequent reappearance of blood.

The diet is naturally an all-important care; all milk, etc., was zyminised and so predigested. Rest was absolutely insisted upon for many days after apparent recovery.

An epidemic of "colitis" has recently taken place in the Derby County Asylum, England. During 12 months ending last May 54 persons were attacked and 23 died. "19 necropsies were held, and the following facts ascertained: in five cases changes in the large intestine only were found; in four, changes in the small intestine; and in nine, changes in both large and small; in one case the stomach was ulcerated." *

A specimen of ulcerated bowel was sent to the Jenner Institute of Preventive Medicine, and found to contain the "bacillus enteritidis sporogenes."

144 cases of hæmorrhage from the bowel are reported from St. Bartholomew's Hospital, from March 1898. This epidemic was traced to the milk supply, and rods and spores of the same bacillus were demonstrated. "Three or four minutes boiling will kill the spores from an artificial culture, but six or ten minutes may be required to destroy them from the intestinal tract." It was noted in the Derby Asylum epidemic that the healthy inmates were less liable to be affected than the enfeebled or otherwise predisposed.

As regards treatment, bismuth, salol, opium, calomel, ipecacuanha, castor oil have been used here. In my opinion calomel, castor oil, and, chiefly, ipecacuanha are the only drugs which appear to be at all useful.

Washing the bowel by the insertion of a soft tube, morning and evening (preferably after a motion), appeared in my successful cases to diminish the number of stools and the hæmorrhage. I should have mentioned that among drugs salol appeared in one case to materially moderate the fetor of the evacuations.

Diet and absolute rest must again be insisted upon. Milk from the Pasteur Institute in Paris proved sweet and palatable, and the prepared foods (Mellin's and Benger's) suited the sufferers very well. Carelessness in diet was in my cases invariably followed by slight recurrence of hæmorrhage.

* *Lancet*, 26th September 1899.

DR. HERBERT J. HICKIN'S REPORT ON THE HEALTH OF NINGPO

For the Half-year ended 30th September 1899.

THE health of the port has been good.

The summer was a pleasant one, unusually short, and breaking up completely by a terrific typhoon in the third week of July. During the hottest period, when the thermometer registered a higher rate than that of last year, the evenings and nights were far more bearable, owing to fresh breezes springing up in the evenings; while the noonday heat was less enervating. In consequence, the usual list of summer ailments were fewer in number and less severe than usual.

There were three or four cases of measles in a missionary boarding school for girls. The disease was ushered in suddenly, without any signs of malaise during the incubation period. It commenced by fever (103° F.), eruption appearing on the face, and extending thence to the body and limbs; cough also commenced with the fever and eruption, and was of the usual character. There were, too, injection of the conjunctiva and headache; no diarrhœa and no trace of coryza. The eruption declined rapidly during the second day of the fever. Restlessness and disturbed sleep were also complained of, and swollen glands in face and neck. There were no after complications.

Obstructed Hernia.—This case is only mentioned here to emphasise the danger of leaving off the use of the truss. The patient had an old hernia, which usually was reducible with ease and for which he had a truss; but leaving off its use, and having a little diarrhœa, he found he could not get his rupture returned; colicky pain soon set in, and the hernia became extremely tense and tender to the touch. Long and patient attempts at reduction were made after the patient had been kept in a hot bath till faintness was experienced, and the bath and taxis were repeated after an interval. Dover's powder was then given, with instructions to repeat the dose (10 grains) in a couple of hours if still unreduced and if pain persisted. The instructions were faithfully carried out; and after the second dose the patient slept, and on awaking he succeeded in reducing the hernia by his own efforts. Although this fortunate termination was attained, he had been for about eight hours in a state of great anxiety and suffering, with the temperature a little above normal and the pulse correspondingly quickened. It has been a lesson to him, and I hope it may be one to others, never to leave off the truss.

Dysentery.—Two cases were treated, and they illustrate the results attained by following out two modes of treatment. At the early period of each there was every indication of a sharp attack of this troublesome ailment.

In the first case, after commencing treatment by a small dose of castor oil and a few drops of laudanum, together with salicylate of bismuth, sulphate of magnesia in dram doses

with diluted sulphuric acid and small doses of laudanum were given in a mixture every hour for about four doses and then every four hours, supplemented by rectal irrigations of hot water twice daily. This treatment had the effect of relieving pain and straining and of greatly reducing the number of stools, while the attack ended in about a week. The diet was one of milk alone.

In the second case the initial treatment was the same; but, owing to the strong dislike of the patient to Epsom salts, Carlsbad salts was substituted, to be discarded after four or five doses, as no improvement was apparent. Irrigation with bismuth salicylate was then continued for another day; as, however, the disease seemed to be on the increase, and ulceration progressing, ipecacuanha in 30-grain doses was commenced. The first dose was given in the afternoon, with 1 grain of cocaine five minutes beforehand, and another grain when nausea began to be felt, about half an hour after the taking of the ipecacuanha. By this means, and by instructing the patient to lie without any pillow and with a turpentine stupe over the region of the stomach, the dose was retained for about three quarters of an hour, when vomiting of a green bilious fluid occurred, but no other benefit was apparent. The dose was repeated in 24 hours, with the same precautions, but rejected, the cachettes of ipecacuanha being recognised in the vomit, and being apparently only partially dissolved. The dose was again repeated in 12 hours, but this time 20 drops of laudanum were given in addition about a quarter of an hour before the dose of ipecacuanha, and kept down with great difficulty for an hour and a half. Much vomiting of a yellow bilious material ensued, and typical yellow ipecacuanha stools produced, and the attack was, virtually, abruptly brought to a conclusion. No more ipecacuanha was given and no more needed; the bismuth salicylate was the only drug given, and it is questionable whether even this was necessary. The diet throughout was solely milk.

These two cases illustrate the respective merits of treatment in the one case by Epsom salts and irrigation, and in the other by ipecacuanha. Although in the first case the salts and irrigation undoubtedly converted what promised to be a severe case of dysentery into quite a mild one, yet I believe the ipecacuanha treatment would have established convalescence in a much shorter period. For certainty of action in an uncomplicated case, and for rapidity of action, ipecacuanha, in my experience, easily takes the first place; but it must be persisted in till the typical stools are produced, and in many cases in smaller doses even after this. The tolerance of the system to the drug I do not believe in; it almost always produces terrible nausea and retching, with temporary depression. The Chinese, as a rule, tolerate it far better than Europeans, and can often retain it for the requisite time without preliminary doses of laudanum or cocaine. I have never observed that after repeated doses any tolerance of the drug is attained; rather the contrary. To attain success with it, minute attention to detail is essential—an empty stomach, no pillow, a turpentine stupe or mustard cataplasm, and the sensitiveness of the stomach must be blunted by opium or cocaine or some such drug. In addition, great resolution both on the part of the patient and doctor is necessary to continue the drug till the characteristic stools are produced, and for a day or two subsequently in obstinate cases. At the same time, the other treatment, by salts and irrigation, though not so certain or so speedy, has also sufficed in many cases, and has the great merit of being a far more pleasant one. In irrigation it is sometimes very difficult to get much fluid injected: it

returns as fast as it is thrown up; and even when injected very slowly and with a minimum of hydrostatic pressure, it sometimes causes pain and spasm.

One death occurred in the community in a member who was a temporary resident on the Hills. This was the result, apparently, of a small boil on the temple, which was pricked with a needle and severely squeezed. Septicæmia occurred, with a fatal termination on the fifth day.

Boils are a frequent source of annoyance and pain; several cases came under my notice. The best preventative, apart from diet, exercise, etc., is the use of a few drops of Jeyes fluid in the bath water. When the papular stage commences—that is, when the boil is first noticed,—dilute citrine ointment will very frequently abort it. The application of a corn plaster, covered with a bit of adhesive plaster cut to the shape, and the cell thus formed filled with salicylic acid and applied over the papula, is also an effective plan of treating them if carried out early enough.

DR. ALFRED HOGG'S REPORT ON THE HEALTH OF WENCHOW

For the Year ended 30th September 1899.

THE health of the foreign community here during the period under review has been, on the whole, very good, and consequently affords little material to report about. Judging by the description of other ports, Wenchow may, I think, be considered as one of the healthiest and cleanest, though rather damp and depressing at certain seasons. Indeed, the chief complaint about it is on the ground of ennui.

The streets are for the most part raised in the middle by a causeway of bricks set on edge, or else paved with large, long blocks of granite, and, as a rule, drain into a canal running alongside each street, communicating with the river by outlets at certain places. Consequently, a heavy rain scours the streets and drains off into the river at low water.

The water supply is good, though the wells are often contaminated, giving rise at times to epidemics of cholera or typhoid. Malarial fever is common, but not of a severe type.

During the winter months several of the community suffered from colds and catarrhs, through exposure to changes of temperature, but none of the cases were of a serious nature. One or two residents had occasional attacks of fever, from getting a chill, but the malaria was not originally contracted here.

The summer heat this year commenced early, and was very trying at first; but in August, after getting a share of two typhoons, there was a considerable amelioration of heat.

Two old China residents had to be invalided home, one from heart disease and dropsy, the other from general debility.

Among the cases treated were—

Bronchial catarrh.
Rheumatism.
Neuralgia.
Malaria.
Podagra.
Chronic urticaria.
Dyspepsia.
Diarrhœa.
Acute gastritis.
Dysmenorrhœa.
Pregnancy.
Syncope.
Rupture of soleus.
Sprain of gluteus and quadratus lumborum.

The writer had also the misfortune to sustain a fracture of the clavicle, between the conoid and trapezoid ligaments, but it united very well without deformity.

For the accompanying meteorological report I have to thank the Harbour Master, Mr. MÜLLER.

METEOROLOGICAL TABLE, October 1898 to September 1899.

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.	
	Maximum.	Minimum.	Maximum.	Minimum.	No. of Days.	Quantity.
1898.	*Inches.*	*Inches.*	° *F.*	° *F.*		*Inches.*
October	30.330	29.880	85	56	8	8.20
November	30.580	29.930	75	40	8	5.35
December	30.500	30.130	65	34	2	0.36
1899.						
January	30.500	30.100	66	34	7	1.56
February	30.500	29.900	64	35	11	3.76
March	30.500	30.000	70	40	10	1.39
April	30.350	29.800	76	41	13	4.25
May	30.300	29.850	83	57	19	10.45
June	30.170	29.700	87	64	10	3.98
July	29.975	29.490	93	72	9	2.10
August	30.030	29.650	96	72	16	10.70
September	30.200	29.850	88	64	11	5.90

DR. HENRY LAYNG'S REPORT ON THE HEALTH OF SWATOW

For the Half-year ended 30th September 1899.

THE summer of 1899 will be remembered as one of the hottest for many years, the mean temperature in both July and August being higher by nearly 2° than that of the same two months last year.

The health of both the foreign and native residents in the port of Swatow for the six months under consideration was most satisfactory; there has been no epidemic of any kind, nor has a case of cholera or plague been met with.

Only one birth occurred amongst the foreign community. There has been but one death from the shipping, and not one amongst the foreign residents.

The neighbourhood of Swatow will not allow of so favourable a report. Unfortunately, bubonic plague was once again epidemic in several districts, notably at Ampo, to the north-east, where some 1,800 deaths are recorded. Huelai and Kuisu, to the south-west, were also once more centres of the disease; it was also present at Nngkng, to the north, and in one portion of the city of Ch'ao-chou-fu.

The first appearance of plague in this port or district was in the summer of 1894, and were cases imported from Hongkong. Since then the disease has existed as an epidemic either in the port or in neighbouring towns or villages.

In 1895 it was the port of Swatow and the large town of Ch'ao-yang.
In 1896, Ch'ao-yang and district of Haimun.
In 1897, Talhoupou and villages due south and south-east; also Huelai, to the south-west.
In 1898, port of Swatow, Ch'ao-yang, and Huelai.
In 1899, Ampo and villages to the north and north-east; Nngkng, to the north; and Huelai and Kuisu, to the south-west.

Ch'ao-yang has suffered far more than other places.

This year 170 natives formed themselves into a sort of relief society and paid into a general fund. Of the members of this society, 10 were always on duty. The objects of the society were to supply medical attendance and comforts, purchase coffins, and arrange for burials. It is interesting to note that not one of the members or member's substitute contracted the disease whilst on duty.

The disease has spread chiefly along the coast line, but it can hardly be expected that the inland towns and districts will long escape.

Emigration from here to the Straits Settlements was prohibited from 5th June to 28th September. This was, I consider, an unnecessary step on the part of the Straits Government.

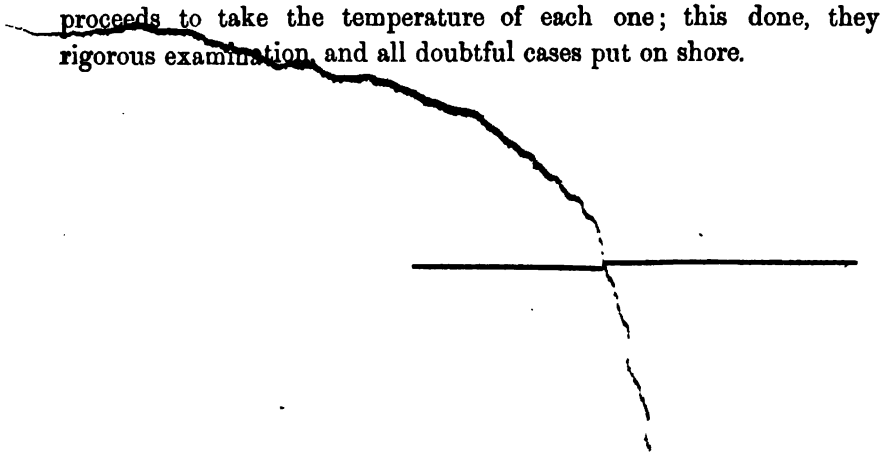
Careful and strict medical inspection at the port of departure, with a similarly careful inspection at port of destination, in addition to the quarantine of nine or ten days, has proved so successful in the past that prohibition need only be resorted to if the port itself is badly infected.

Most of the emigrants come from the villages or neighbouring towns. The journey to the port occupies from one to three or more days, with the possible and probable stay of a day or two in the port, waiting arrival of the steamer. The days so spent in travelling and waiting, added on to the nine days quarantine spent on board ship, in reality mean that often 12 or 15 days have intervened between the time that an emigrant leaves an infected district and his arrival in Singapore.

To be of real service, the medical examination must be thorough. The examiner should be conversant with the geography of the district, and, if unable to speak the dialect, he should have the assistance of a reliable interpreter. All men should be stripped to the waist, the groin and femoral glands examined, and the hand should be placed on the chest or forehead of each person, so that any fever may be diagnosed. The first detectable sign of plague is fever, and all with fever (even in the total absence of other symptoms) who have come from an infected district, or have passed through such a district, should be refused. In a report I drew up on the 19th June 1897 I find this statement: "Since 8th April this year (1897) some 13,300 passengers have left Swatow for the Straits Settlements, Bangkok, Saigon, and Deli. These were all examined by me, and doubtful or suspicious cases sent away, with the result that only one case has been detected amongst them on their arrival at their destination. To this number may be added some 2,000 or 3,000 to Hongkong, which will bring up the number of cases of plague occurring on board ships containing emigrant passengers to 1 in about 16,000—a risk which is so small as to be considered as no risk, seeing that the case was detected on arrival."

Dr. FRANK CANTLIE'S experience last year and that of us both this year confirm me in my opinion expressed in 1897, "that the present system of medical examination at time of departure and arrival has been an almost perfect success—as great a success as any system of quarantine or prohibition of the traffic will prove."

Our plan here is to pick out all with fever, enlarged glands, or with any suspicious sign, place them to one side of the deck, where a reliable hospital assistant is stationed, who proceeds to take the temperature of each one; this done, they are subjected to a most rigorous examination, and all doubtful cases put on shore.



DR. RODERICK J. J. MACDONALD'S REPORT ON THE HEALTH OF WUCHOW

For the Half-year ended 30th September 1899.

SINCE the last floods, two years ago, the 50,000 helpless inhabitants of Wuchow have allowed their city to become more than ever like the Augean stables, where 3,000 oxen are said to have been herded in stalls which had not been cleaned for 30 years.

It is true that nightsoil, which has a market value, is removed; other rubbish, however, accumulates, awaiting the uncertain attentions of the scavenging elements—wind, rain, and flood. The natural forces of wind, rain, and gravitation are constantly shifting the superficial rubbish about the town, and for the most part from upper to lower levels, whence floods scour some of the culpably accumulated filth away.

As the Augean stables never would have been cleaned apart from the herculean device and labour of turning the rivers Alpheus and Peneus through the place, so it is with Wuchow. Unless a flood occurs, the town is never even partially cleaned: none can, however, control or even predict the floods of the Fu and West Rivers. If there were an individual who never washed, but whose hands and face were occasionally wetted by a shower of rain; and never bathed, but once every few years would paddle in the sea, taking care, however, that the water never rose above his knees,—Wuchow, with its somewhat similar system of ablutions, would be like that individual; for it can never be pronounced clean and wholesome, but some years is dirtier and more diseased than usual.

During the past six months there has been an unusual amount of sickness amongst the foreigners, natives, and animals of Wuchow and its vicinity. The cause is not far to seek. Drought in the spring, coupled with an absence of floods last summer, allowed accumulations of refuse in overcrowded quarters to prepare a soil suitable for the propagation of pathogenic organisms, and prompted the remark at the time of writing my last Report,* that an epidemic of bubonic plague might confidently be expected; indeed, it had already begun. The plague might have been stayed by a heavy rainfall in April, supplemented by a flood at the beginning of May. Events happening otherwise, the epidemic caused unusual mortality, and the town carries forward a debit balance of unremoved filth, to be reckoned with in the account of next year.

THE EPIDEMIC OF BUBONIC PLAGUE.

Date of Outbreak not certainly known.—The first mention of bubonic plague in my note-book this year is an entry on the 9th March. As Wuchow knows nothing of compulsory

* Customs *Medical Reports*, lvii.

notification of infectious diseases and death certificates, even the mandarins do not know of the earliest cases. Neither can I flatter myself that early information would be likely to reach me. After several deaths had occurred in one house or street, or when the increasing number of coffins carried through the city gates had excited general comment, I should receive the news. It seems to me, therefore, that plague was prevalent in Wuchow on the 9th March, and quite probable that the outbreak occurred at the beginning of March.

The Original Source and Route not been ascertained.—It is not easy to obtain from the natives satisfactory replies to questions concerning the origin of this year's epidemic, date and locality of first case, whether indigenous or imported, and if imported, whether from the west (Yunnan) or from the east (Hongkong).

Plague probably not indigenous in Wuchow.—Although a year ago I reported its prevalence in Wuchow in the months of April, May, and June of 1898, yet I have no corroborative evidence to adduce in support of a theory that plague is indigenous here. On the contrary, since the bacillus is not able to withstand desiccation longer than four days (KITASATO), and although it may retain vitality and virulence for about a couple of months in clothing and in closed undisinfected houses, yet since I know of no proof that the bacillus can maintain its virulence, or existence even, extra-corporeally for six months; and as no manifestation of the disease was brought to my notice during the comparatively long period of eight months—namely, from July 1898 to February 1899 inclusive,—I incline to think that last year's crop of the plague bacilli completely perished; that the disease is exotic and not indigenous here; and that the specific bacillus was this year again introduced from without.

Was the Plague imported from the West (Yunnan)?—The following considerations favour such a theory. Two students up for examination from Yungun, a seat of last year's rebellion and massacres, are said to have been among the first to die of plague in Wuchow this year. I am told that there is always some plague here at examination times. Last year fugitives from the perils of the rebellion took refuge here, and thus were established more intimate communications between Wuchow and those theatres of pillage, massacre, poverty, and disease. A resident of the most plague-stricken quarter says that some of the refugees had obtained lodgings in that part of the town. It is further said that plague appeared in the west and in the districts disturbed by the recent rebellion before it appeared here. On the 21st May a Yunghu sugar merchant removed to Samkok to escape the plague. Samkok is the western suburb of Wuchow, separated from the town by the Fu River. On the 22nd May one of his family developed plague, and died on the 24th. Having regard to the period of incubation, which is perhaps on an average three days, this was probably a case of importation of the plague from Yunghu, the next market town to the westward. A missionary from Nanning says there has been an epidemic of plague there this year. In the Imperial Maritime Customs Trade Reports for 1898 * mention is made of the occurrence of plague at Lung-tan, west of Szemao, and of two cases imported from Lung-tan to Szemao in the autumn of 1898—say, six months before its appearance here. Has plague been travelling eastward since then with various vicissitudes, sometimes reaching a town such as Szemao, only to die out there, and again being carried to

* Customs *Returns of Trade and Trade Reports*, 1898, p. 681.

some other place beyond, and so, after six months of devious journeyings, accomplishing the 700 miles to this place?

Was the Plague imported from the East (Hongkong)?—The following considerations favour this theory. Steamboats have kept up a constant communication between Hongkong and Canton, Canton and Wuchow, and Hongkong and Wuchow. The newspapers reported that by 25th February sporadic cases had occurred at Pakhoi, and by the 3rd March two or three cases had occurred at Hongkong. More passengers travel direct from Hongkong to Wuchow (last year 108) than from Wuchow to Hongkong (31); therefore more plague is likely to have been brought here direct from Hongkong than carried thither direct from Wuchow. The quarter of this city in which plague, as I believe, appeared the earliest, claimed most victims, and lingered the longest was Kamlungshe and a district in the neighbourhood of the pontoons at which the Hongkong and Canton steamers arrive. The Prefect's likin station, situated at the eastern end of the harbour, and visited mostly by boats from the east, was more seriously infected than any other barrier. (The Harbour Master informs me that there were 20 deaths from plague amongst the staff of the native Customs pontoon, and, in addition, two hawkers and two carpenters, making 24 in all.) In 1894, being in practice in Fatshan, my patients afforded proof that Hongkong was reinfecting its own *hinterland*. Some on their way from Hongkong to their native villages looked in at Fatshan hospital for treatment, or, reaching their homes, introduced the plague into villages where previously it had not appeared.

Before leaving this part of the subject one is tempted to inquire, whence does the plague originally come, and by what routes does it usually reach Hongkong and the outer world? The received opinion is thus stated in the article on Plague in QUAIN'S *Dictionary of Medicine*, 1895: "Another undoubted seat of endemic plague is the Yunnan district of Southern China, and the seaport of Pakhoi, on the Tonkin Gulf. It is evidently there a soil disease, causing the death of animals, such as rats, dogs, cattle, etc., as well as of men. In Yunnan it is confined to altitudes from 1,200 to 7,200 feet above the sea. Several epidemics since 1871 have been described in the Reports of the Imperial Chinese Customs, especially by MANSON and LOWRY."

Unfortunately, the Wuchow library does not contain the Imperial Maritime Customs *Medical Reports* issued before the opening of the port; I have therefore been unable to obtain access to the Reports mentioned. Dr. RENNIE wrote a Report on the plague epidemic at Canton in 1894, contained in the Customs *Medical Reports*, 47th and 48th issues, extracts from which appeared in one of the Annual Reports (1896) of the Medical Department of Hongkong, kindly lent me by Dr. J. M. ATKINSON. Dr. RENNIE wrote*: "The great highway of commerce between Yunnan and Kwangtung is the West River, on which are situated one or two *entrepôts* of trade with Pakhoi and Lien-chou, through which opium and other products of Yunnan are transmitted to those cities. Inquiry in official circles shows, however, that no outbreak of plague has been known at Nanning-fu, Wuchow-fu, or other cities on the West River, which we should expect to find if the disease had spread by this channel. We feel therefore justified in excluding this route, and limiting ourselves to the more probable supposition that it reached Pakhoi overland through Kwangsi or the borders of Tonkin. Chinese authorities state that it reached Pakhoi

* Customs *Medical Reports*, xlviii, p. 66.

from Tonkin, but as it is known sporadically in the borders of Kwangsi, this latter source is more probable. . . . . If it came to Canton by sea, it is rather remarkable that Hongkong, which is nearer to, and in direct communication with, Pakhoi, should have been visited by an outbreak nearly two months later than Canton." Since the above was written Dr. RENNIE may have modified the view then expressed. His last-mentioned fact leads one to doubt the accuracy of the opinion given by the Chinese officials of Canton, that Nanning-fu and Wuchow-fu, in Kwangsi, were then free from plague, as Dr. RENNIE doubted the accuracy of their opinion that the plague reached Pakhoi from Tonkin. What amount of intelligent interest the Chinese authorities of Canton, even at this late date, take in this important subject may be learned from the description of Mr. R. W. MANSFIELD, Her Britannic Majesty's Consul at Canton, who, writing in June last, said: "The Chinese authorities take no precautions against the disease, and exhibit complete apathy on the subject." On the 19th and 20th September, in two conversations which I had with him, the late Bishop CHOUZY, who had been resident in China for 40 years, assured me that in 1894, the year that plague appeared in Canton, and for years previously, there had annually been some plague in Nanning-fu and Kwaiun, on the West River. From inquiries made on the spot I am led to believe that some cases of bubonic plague have also occurred in Wuchow-fu annually since the year of the exceptionally high flood, which, it will be remembered, was 1884, which year also saw the close of the Franco-Chinese hostilities on the Tonkin border. The Chinese massed large bodies of braves in the neighbourhood of Lungchow, and the mortality from malarial fevers, dysentery, and probably from plague also, as well as from wounds, was very heavy. Dr. WENYON, who visited the Chinese camp at Lungchow, reported that in places in Kwangsi the effluvium from unburied corpses tainted the air, and he anticipated an outbreak of plague. There are some in Wuchow who date the plague epidemics here from 1897, the year of the opening of the port and the direct steamship communication with Hongkong and Canton; and I can well believe that the amount of plague here has markedly increased since that event. The epidemic at Mengtsz in 1893, recorded in the Customs *Trade Reports*, was probably a part of the wave which reached Canton and Hongkong in the following year, 1894.

To sum up, I must admit that I do not certainly know the original source and route of the plague in the Hongkong *hinterland*, either in the year 1894 or during this year's epidemic.

Plague having proved a disappointing subject to theorise upon, and my experience of the disease being but limited, any theories of mine are only to be stated diffidently and tentatively. May not the foregoing statements, if true, bear the following interpretation?

1°. The seat of endemic plague for the Far East is probably the Yunnan district of Southern China.

2°. The plague travels thence to Hongkong *vid* Pakhoi (at present, perhaps, the swifter route) and also *vid* the West River and Wuchow-fu.

3°. That infected Hongkong reinfects its own *hinterland* (and also many distant ports, which, in turn, infect their various *hinterlands* and other ports).

4°. That this year Pakhoi probably first infected Hongkong.

5°. That Hongkong infected Wuchow.

6°. That about the same time Wuchow was being infected from the west.

7°. That had Pakhoi not infected Hongkong at the beginning of March, Hongkong would not have escaped infection this year, for Wuchow would probably have infected it by the middle or end of the month.

8°. That the Franco-Chinese hostilities of 1883 and the Kwangsi rebellion of 1898 have possibly been factors increasing the virulence of plague; and that flight due to panic, examinations (like pilgrimages), as well as travelling for trade, help to spread it within the *hinterland*.

Condition of Wuchow during the Epidemic. — Wuchow affords an example of the condition of all the towns which transmit the disease from the plague centre to Hongkong.

The Risk incurred by Foreigners who live among the Chinese.—On the 22nd March I happened to call at the British Consulate, located at the Chun T'ai Kok (準提閣) temple. The inmates were being annoyed by the effluvium from a considerable number of dead rats. The Consul inspected his larder, and found that the rats had eaten the heart of a cabbage, some tomatoes and potatoes, and, most dangerous of all because served uncooked, the cheese. The priests granary also proved very attractive to the rats. I advised the Consul to leave the temple. His home was promptly removed to a boat, and subsequently his office also. I heard that two or three of the priests who remained in the temple died of the plague. Next year any missionaries, merchants, or Customs or Consulate officials who may be living among the Chinese in the town after the end of February will be running a serious risk.

Interior of a Plague-stricken Dwelling.—On the 29th March I was called to see a middle-aged woman who was delirious with plague and almost in the last stage of the disease. The house would here be considered a respectable dwelling. The men of the family were nearly frantic, the women almost paralysed, with fear. Several females occupied the same room as the dying woman. No one seemed to know what to do. No attempt was being made at segregation or disinfection or even simple cleaning. The sick expectorated upon the earthen floor (many of the inner apartments of comparatively respectable houses have earthen floors). The same cups, plates, etc., were used indifferently by the sick and healthy. I was not surprised to hear that in that house three people took the plague, of whom two died. All kinds of plague cases were reported—abortive, grave, and fulminant; and one of the symptoms mentioned, which I myself, however, did not see, was hæmoptysis. Inasmuch as the blood in such cases is an almost pure culture of the bacillus, this symptom occurring in an overcrowded dwelling having an earthen floor, whose inmates habits are such as we know the Chinese habits to be, must be a ready way of infecting the whole family. For flies will feed upon such material, and subsequently infect food and sores. The Chinese naked feet, if wounded, run the risk of inoculation. In an overcrowded room the disease might conceivably be communicated from the sick, whose blood contains the bacilli, by the mosquito's labium. The night nurse in attendance upon plague patients should beware of mosquitoes, and also apply ointment or plaster to any abrasion, lest it should be inoculated by flies. Two of my cases exhibited local sores, which I considered to be the sites of inoculation. It is easily understood that many risks incurred by the poor are entirely avoided by people in affluent circumstances.

Stories calculated to produce Panic.—On the 3rd May I heard of a case where out of 11 people who had occupied one house nine were already dead of plague; and another case where a whole family had died, with the exception of one servant, who was out of town. When she returned the neighbours congratulated her upon inheriting the family property. She entered upon possession of her house, took the plague, and died also. Such stories induced those who could afford it to remove their families on board boats or to flee to their country homes. Wuchow thus infected surrounding villages.

The Mortality.—I can only form a rough conjecture of the mortality from exceedingly imperfect data. The plague lasted four months, at times diminishing and again increasing, as, for instance, on the 12th May it appeared to be abating, and again on the 25th May increasing, the variable mortality depending on a number of causes—*e.g.*, the importation of fresh cases; the temperature and humidity favourable or adverse to the development of the specific bacilli; the effect of rainfall in washing away superficial layers of rubbish, etc.

The case of a single street affords but little aid in estimating the general mortality. However, I can do no better than instance the case of the street which leads to the Small South Gate. Although this street does not lie in the quarter where the epidemic was most pronounced, yet I think its mortality would probably be considerably above the average of the whole city. In the street there are said to be 36 houses and 216 inhabitants. In the course of about 20 days in the month of May plague appeared in nine houses, and carried off 15 people—that is to say, 25 per cent. of the houses were infected, and nearly 7 per cent. of the population of that street died.

On the 30th April I guessed, after making a few inquiries, that the mortality was about 20 a day. On the 21st June a patient, a riverine guard-boat captain, said 50 people a day were then dying of plague, and estimated the deaths up to that date as 2,500. I think his estimate was excessive, and consider it more probable that the mortality this year was about 1,000, or, say, 2 per cent. of the population.

Surface-crowding and Overcrowding.—In the case of the street cited above, curiously enough, all the plague-stricken houses, with one exception, were situated on its west side. The house on the other side (a shop) may serve, so far as a single building can, as an example of the degree of surface-crowding and overcrowding which obtain here. It has no windows, being closely surrounded by other houses on three sides. Its front is open to the street, which is 7 feet wide, and there are two skylights, one in the shop and one in the kitchen. The floor is of brick, much lower than the floor of the surrounding houses, and very damp. The cubicle is very dark, being only lighted through the partition between it and the shop; above it is a loft, and in the shop a mezzanine floor. When the epidemic began the house was occupied by a native doctor and 10 shoemakers. Two of the shoemakers died of plague; the doctor is also dead. One or other of the survivors was constantly suffering from fever and unable to work. Four men worked in the shop, three in the kitchen, and four in the loft. The building allows about 236 cubic feet per individual in the workrooms, and the surface-crowding is probably more serious than the overcrowding.

In 1898 the passenger traffic returns showed an excess of arrivals over departures of about 4,000. Some of these passed on to other places; but, owing to the rebellion, many

refugees and others arrived in native boats, of whom no returns are obtainable. The population of Wuchow is increasing, but few new houses have been built; the new arrivals therefore crowd into the old houses. A glance into the houses and workshops in passing is sufficient to convince one that a state of overcrowding prevails. I believe the health of the town is at present rapidly deteriorating. The expense alone through sickness and consequent loss of the workmen's time must be very great; and the thought of the happiness of thousands of human beings sacrificed because their whole existence must be passed in such an unhealthy environment is oppressive.

Prevention: no Measures taken.—The town instituted no precautionary measures to prevent the spread of the plague. There was no attempt at detection of the disease; or the evacuation and disinfection of infected premises; or the segregation of the sick and their attendants, such as might economically have been arranged for in temporary matshed hospitals and houses; or sanitation (the latrines and rubbish heaps are as completely neglected as they were before the warning visitation); nor any curative (Lustig's, Yersin's, or Roux') or prophylactic (Haffkine's) serum used. The magistrate issued a proclamation commanding that the clothing of plague patients who died should be burned, but took no measures to see that his command was obeyed. It goes without saying that the proclamation was completely ignored: many never even heard of it. No attempt was made to diminish the number of vermin in the town, but dead rats were cast out of the houses or flung into the river. Especially reckless was the disposal of some of the corpses. At the Great Martial Monastery (Tai Hung Tsz, 大雄寺) and Golden Lily Nunnery (Kam Lin Om, 金蓮菴) deadhouses, Kichong (寄庄), are stored about 100 corpses in a neighbourhood where plague was rife this year. It is a gruesome subject, and there can be no pleasure in probing it; yet it should be probed deeply. What is to hinder rats gnawing through these coffins? It is no secret, but when obliged to mention it one instinctively does so with bated breath—the Chinese here have a horrible habit of household corpse hoarding. No one knows how many corpses of plague patients are retained in the town. There almost seems to be an element of secrecy about the proceedings with regard to corpse transportation. For some days during the epidemic a couple of large boats, laden with about 30 corpses in coffins, were anchored at the foot of the Southern Hill. The effluvium was overpowering. The corpses were from Wuchow, but I could never learn their destination. Who knows how much plague is thus spread within the Hongkong *hinterland?* During the epidemic I also saw coffins in some instances left unburied among the graves, and uncoffined corpses in one or two instances exposed upon the ground.

Futile Efforts and Wasteful Expenditure.—It must not be supposed that the townsfolk were unaware of the dangerous nature of the epidemic or unwilling to spend money to combat it: the pity is that through superstition and ignorance their efforts are misdirected and their money wasted. Out of 12 *shê* (社), or districts, in the walled city, 10 held idol processions to stay the plague. I cannot estimate the sums expended at these festivals in subscriptions to the priests, wages, food, illuminations and fireworks, and purchase of useless charms written by the priests, to be worn on the person or affixed to the house doors. For prophylaxis it was the fashion to wear bracelets of scented beads; and for medicines, tablets compounded of Hunan lizards were much in vogue. Under such circumstances, it is not surprising that the plague persists.

The condition of Pakhoi during an epidemic may be imagined from the following brief letter which was published in the *China Mail*:—

"PAKHOI, *June 30th.*

"The plague, thank God, is subsiding here. It has been the worst year for 20 years, lasting longer than any epidemic I can remember. It was much more virulent than ever, and with fewer recovering than in any recorded year.

"A great many cases never showed the usual swellings. These patients lived only 24 or 48 hours after the first feelings of sickness, and were usually very delirious.

"The poor laid their dead relations a foot below the sand on the seashore, with the horrid result that tens of dogs were seen daily exhuming the bodies, and running about with arms and legs, devouring them at their leisure. This is China! Of course nothing was done to prevent this wholesale mode of spreading the disease."

The Epidemic Constitution.—SYDENHAM'S term has been used "as signifying a wide-spread cause — telluric, atmospheric, cosmic, as the case may be, acting at the same moment of time on many individuals; or as something occult, regarding which speculation is vain."* But there is now no great mystery about plague: it is a filth disease; its specific bacillus is known; all other needed information concerning its nature, cause, and cure are to be obtained by patient investigation and experiment; cleanliness is sufficient of itself to extinguish the plague. SYDENHAM'S term, with its former significance, is therefore not now used in medicine. Yet it may be convenient to apply it to places, with a new definition. I consider that localities in which the plague bacillus attacks human beings almost all the year round, and every year, thereby manifest the possession of a continuous plague epidemic constitution; that localities in which the plague bacillus attacks human beings for some portion of a year, or for some portion of a series of years, with intermissions, display an intermittent plague epidemic constitution; that localities where plague was once epidemic, but where the plague bacillus now dies out shortly after its arrival, without being able to produce an epidemic, has outgrown its plague epidemic constitution, by means of greater cleanliness on the part of its inhabitants, better government, and a greater abundance of wholesome food. The possession of a plague epidemic constitution should be considered a disgrace to any locality, and no self-respecting community should ever cease its exertions until the vicious constitution is eradicated. One can safely predict that, under present conditions, Wuchow and Pakhoi never will outgrow the epidemic constitution, but their dyscrasia will increase with time.

Magnitude of the Interests at stake.—We are now face to face with an irruption of plague bacilli, which, like nomad tribes issuing from their own wilds and fastnesses outside the pale of civilisation, seek to overrun the world, bringing with them sudden and horrible death, and causing untold sorrow, panic, interference with business, and heavy incidental expense. History shows that our fathers, after sustaining very heavy losses, succeeded in repelling this foe.

"In the fifteenth century the countries in which plague was habitually present, or recurred at intervals, included Northern Africa, Egypt, Western Arabia, Syria and Palestine, Asia Minor and Mesopotamia, Persia, probably India and China, and Europe generally.

* QUAIN'S *Dictionary.*

Throughout the sixteenth and seventeenth centuries there are almost continuous records, from year to year, of the presence of the disease, in greater or less activity, within this area of prevalence. . . . . During the latter half of the seventeenth century a remarkable lessening of the area of prevalence of the disease began to take place. As regards Europe, in the course of the 20 years 1661–81 plague disappeared from Italy, England, Western Germany, Switzerland, the Netherlands, and Spain. This lessening of area continued throughout the eighteenth century, the number of serious outbreaks of plague also diminishing, two only having occurred in that century. . . . . At the close of the first third of the nineteenth century the area of prevalence of the disease had shrunk to the easternmost part of the Turkish Empire in Europe; and in the year 1841 plague ceased on the Continent altogether . . . . . ; and in the year 1844, with the cessation of the malady in Egypt, plague seemed to have become wholly extinct, and Europe to have got rid of a terror which had harassed it for ages." *

Since 1884 the Yunnan plague has been epidemic in Kwangsi, probably almost annually reaching as far east as Wuchow and Pakhoi. It seems to me that had these two half-way houses been thoroughly cleaned during the years 1883–93 the plague would not have been able to pass them and get to Hongkong and the outer world in 1894.

Plague broke out in Bombay in July 1896. When giving evidence before the Indian Plague Commission in March this year, Dr. KRISTMA said he believed that Bombay was infected direct from Hongkong, and I am afraid there is more evidence for that view than for the opinion that it might have come from the Persian Gulf or the Kamaon hills. Major CHARLES, Professor of Anatomy at the Medical College, Calcutta, stated to the Plague Commission that a child contracted plague in October 1896 through playing amongst bales of goods imported from Bombay. A rat found amongst the same goods had the plague bacillus in its blood. He believed the disease was brought in 1898 in goods carried by sea, and spread by rats from the landing jetties. The evidence tends to show that from Bombay it spread to Karachi and Sind in 1896–97. Dr. BAINBRIDGE gives a list of 23 places into which the disease was imported from Karachi, Bombay, and their secondary centres. The evidence given at Surat showed that the plague travelled thither from Bombay: in Surat and district, in December 1896, 18,000 persons were suffering from plague. The cost of the preventive measures taken in the Punjab was reported in April as amounting to about four lakhs of rupees. †

The following letter, copied from the *China Mail*, affords a glimpse at the distress caused by the plague in India:—

"BOMBAY, 18*th July* 1899.

"A Government resolution issued to-day, granting sums to local boards in aid of expenditure on plague, regard being paid to the financial position and the necessities of the respective bodies. To those bodies unable to obtain credit in the open market loans have been granted from the State funds, allotments being on the distinct understanding that a local body which receives a grant will undertake without delay the expenditure required for the execution of the improvements represented as indispensable, and will make for that expenditure such provision as may be approved by the Government. The Governor in Council recognises most

* QUAIN'S *Dictionary.* † *British Medical Journal.*

cordially the uncomplaining spirit in which the many public expenditures due to plague, as well as the mortality, discomforts, and private expense which has fallen on multitudes of persons affected during the continuance of the calamitous visitation of the past three years, have been and still are being endured. He has every confidence that the same patience and fortitude will be exhibited as long as the struggle may last."

What invading army ever in one year attacked so many and such widely separated cities and districts as Yunnan, Kwangsi, Hongkong, and several of the Chinese ports, Formosa, Singapore and Penang, Calcutta, Madras and Bombay, Hyderabad, Poona, Karachi and Sind, Mysore, Jiddah, Mecca, Bushire and Persia, Alexandria, Zagazig, Ismailia, Egypt, Mauritius, Madagascar, Delagoa Bay, Transvaal, West Coast, Barcelona, Oporto and Lisbon, Beluchistan, Samarkand, Thibet, Mongolia (besides attacking ships upon the sea); or caused more mortality, widespread distress, expenditure and loss, and interference with trade? If, when the Mahdi laid waste the Soudan in 1882–85, it was necessary deliberately to plan and, at great cost, make preparations for the defeat of the Dervishes and the restoration of order in that distressed region, which was at length so happily accomplished by the crowning victory of Khartum last year, it is at least equally necessary that a deliberate plan should be formed, and all necessary preparations made, first, for driving back the plague bacilli into the four regions where plague is endemic—viz., Kurdistan, Asir (in Arabia), Benghazi (in Tripoli), and Yunnan; and, secondly, for carrying the campaign into the enemy's country, and so utterly exterminating the pest there that in the time to come nothing shall remain of it but the memory and the name, as it is with the Huns to-day.

The changed Tactics of the Enemy.—The bacillus is not now, as in the historic epidemics, obliged to travel slowly by overland caravan routes or short sailing voyages; it avails itself of the rapid ocean steamships and railway trains, in a short space of time to transport itself to great distances from its original home, and almost simultaneously to deliver its formidable attacks over half the globe. Fortunately, science is provided with an improved intelligence department and weapons of precision with which to meet and vanquish it. It remains for the Government to organise the army which, under medical leadership, shall prudently plan and, with every aid which the Government can afford, successfully conduct this necessary campaign. One chief obstacle to be encountered is the ignorance, prejudice, and fear rooted in the superstitions of the natives. That this obstacle is serious may be inferred from the fact that the Governor of Hongkong was, I believe, unable to overcome it in 1894, or in 1896, when he permitted boatloads of plague patients to be towed back to Canton, whereby Hongkong acquiesced in the disastrous policy of reinfecting its own *hinterland*.

Leaving other breeding-grounds of plague to be attended to by those responsible, let us, in this part of the world, concentrate attention upon the important Chinese breeding-ground in Yunnan and the Hongkong *hinterland*.

Is it not exceedingly discouraging that, after all the praiseworthy exertions both of officials and people, the plague has this year broken out for the fifth time at Hongkong? Those who look on both sides of the frontier must feel that the spectacle, on the one hand, of Hongkong making its strenuous exertions to extinguish the plague, and, on the other hand,

of the Chinese on the *hinterland* annually renewing the supply of the germs, is by no means edifying.

The French seem to be able to eradicate the plague. It was reported on the 31st May that plague had been eradicated from Kwangchowwan by preventive measures adopted by Dr. CONDÉ. Persia is willing to be taught. When the plague broke out at Bushire last June the Grand Vizier gave orders that the advice of the British medical officers was to be implicitly followed. Who could persuade the Viceroy to give the Magistrate of Pakhoi orders, and see them obeyed, that the recommendations of, say, for example, Dr. A. SHARP DEANE and the British Consul with regard to the sanitation of the town should be implicitly followed? Pakhoi might then lose its epidemic constitution, and oppose such an effective barrier that plague could never again reach Hongkong through that gate. I am by no means persuaded that, rightly approached, the shopkeepers would not heartily approve of, and, to the extent of their ability, pay for, the improvements recommended in order to remove the plague from their town. Under happy auspices the Chinese can show themselves both public-spirited and generous in a cause which they have been persuaded to believe is a good one. In June last it was with pleasure I read that "The Chinese in Penang have risen to the occasion, and in every possible way they are giving an active and intelligent co-operation to the municipal authorities in their efforts to prevent the spread of the disease." Penang, as a reward, seems to have escaped with few cases of plague this year.

The Pakhoi problem is comparatively simple, and is not likely to be materially altered until a railway is built. It is a small place (population 20,000), and to put it in a sanitary condition would involve but little expense. It is not a diffusely distributing centre: most of its trade and plague flow in one or two channels—99½ per cent. of its trade is with Hongkong; its coast trade, entirely with Kiungchow, is of small importance. Last year it sent to Hongkong 3,000 passengers, 6,800 pigs, 18,000 hides, and 98,000 pairs of dried lizards. As the plague time lasts about a third of the year, about 1,000 passengers would proceed to Hongkong during that period, not more than 1 per cent. of whom would be likely to be infected, or, say, 10 persons. These numbers do not seem to be unmanageable.

KITASATO found that guinea-pigs were susceptible to the disease. The Annual Report of the Medical Department of Hongkong for 1898 mentions that in 1896 an epidemic occurred among the pigs imported from Pakhoi, and Drs. WILM and ATKINSON found in them a diplococcus almost identical with the plague bacillus in man. It is also mentioned that pork, in many cases only sun-dried, is one of the staple foods of the Chinese. Some supervision of the feeding of these pigs destined for the Hongkong market would reveal defects which might be remedied at but trifling cost.

Hides.—Dr. ATKINSON also found a similar diplococcus in cattle killed on account of rinderpest, which fact may furnish an indication that cattle play a not unimportant *rôle* in the development of the plague bacilli.

Lizards.—Snakes, which, like lizards, live in the ground, die apparently of the plague, and it might be advantageous to inquire whether plague bacilli can be cultivated from these dried lizards from Kwangsi.

Of living hosts, besides man, there have also to be taken into account on board ship diseased rats and mice, which frequently visit the cook's galley, attracted by the savoury food. Hence cooks on ships are liable to the disease. A wise captain might prevent an outbreak of plague on some voyages by setting rat traps in the cook's galley. Nor should insects be neglected. Flies are susceptible (YERSIN), perhaps also mosquitoes, fleas, bugs, etc. Inanimate vehicles, fomites, and even the dust of an infected ship must be guarded against. Inspection of the ship before leaving Pakhoi would double the chances of detecting disease.

A judicious supervision of the merchants and carriers engaged in the trade by the overland route upon their arrival, not multiplying vexatious restrictions but enlisting their co-operation, would also be advisable. Pakhoi as it is—viz., a plague-stricken suburb over which Hongkong possesses no jurisdiction—has a far greater power to inflict injury than that which Kowloon city once exercised.

The West River problem is more complex. The passenger traffic of Wuchow is 10 times as great as that of Pakhoi, but almost all the Wuchow passengers to Hongkong go *viâ* Canton or Samshui, and their number is unknown. Formerly the time consumed by native craft on the journey from Wuchow was sufficient for the incubation period to pass and for the disease to declare itself, or even kill the patient, before arrival at Canton. Wuchow was then the key to the position on the West River; and had it been covered over an area of about half a square mile with a layer of lime concrete 6 inches thick, a supply of Fu River water provided, and crowding prevented, I doubt whether in 1894 the disease could have been harboured here or transmitted to the towns of the delta. But a passenger launch is now running regularly from Konghau, nearly 100 miles nearer to the seat of plague, and soon Nanning will be opened, so that the problem tends to become more intricate. It would be necessary, I think, to produce a broad non-epidemic zone now, by cleaning all the towns on the West River from Wuchow to Nanning, in order to feel assured that the plague could not get to Canton. Nevertheless, Wuchow retains sufficient importance to warrant the belief that its cleansing and that of Pakhoi would confer a considerable degree of protection upon Hongkong and the whole of the province of Kwangtung.

Yunnan.—The final battle with plague must be fought on this field, and the sooner the better.

One of the schools of tropical medicine could render a service to medical science and the cause of humanity by sending an expedition to study the causes of the origin of plague in Yunnan.

I may be permitted to sketch a theory, even although it be proved erroneous when tested by experiment and superior knowledge.

I assume there is a harmless variety of the plague bacillus always present in the soil of endemic areas such as Yunnan, and that spilled blood and putrid unburied corpses produce virulent cultures. Snakes and rats are liable to get infected while living in the ground, and cattle whilst grazing over it. Owing to poverty and fear of robbery, cattle, pigs, etc., are stalled in the house; and grain, which attracts rats, is also stored there. The cattle, pigs, rats, etc., may

give the disease to the family through the intermediation of biting insects, as mosquitoes and flies; or the poor people may acquire the malady by feeding on diseased beef and the flesh of dogs, cats, rats, etc.; the Chinese eat snakes also. The disease then slowly follows the trade routes, finding much assistance from collections of suitable pabulum in the overcrowded quarters of the market towns, and a non-resistant prey among the badly fed, languishing inhabitants of the slums. It reinforces its virulence by occasionally passing through rats, mice, flies, etc.

Mr. HANKIN'S experiment, showing that in rats serially inoculated the plague bacillus lost its virulence after four passages,* which was thought to throw some doubt on the theory that rats play an active part in the spread of the disease, proves to my mind that rats can take an active part in the spread of the disease; and also that the bacillus requires a succession of different hosts in order to develop its full virulence. In this neighbourhood this year it seemed as though the disease first attacked cattle, then rats, and lastly men.

Prolonged contact with the same kind of antitoxin may attenuate the bacillus; but whatever be the explanation, the fact that serial inoculation diminishes and destroys the virulence may partly account for the spontaneous subsidence of plague, as also for the 95 per cent. mortality at the commencement, and 43 per cent. mortality at the conclusion, of an epidemic.

There is no occasion for misgivings on account of any supposed invincibility of the specific bacilli, for there is a manifest hesitation of new places to take the disease (BAINBRIDGE); and the disease frequently stops of its own accord, even where no measures are taken for its limitation, and but a relative, not necessarily an absolute, degree of cleanliness need be attained in order to make it well-nigh impossible for plague bacilli to attack men.

In conclusion, I venture to offer a few suggestions and opinions, not knowing whether they may be of value to those who are responsible for the future conduct of the battle with the plague.

1°. No precautions are taken at Wuchow to arrest the disease.

2°. Hongkong's inherent danger is the possession of an epidemic constitution, open to infection through its Chinese suburbs of Wuchow and Pakhoi, which maintain direct communications with the endemic area.

3°. If the world is to be protected from the Yunnan plague, either something more must be done in Hongkong to eliminate the epidemic constitution, and, in addition, the depraved constitution must be eradicated from the cities of Pakhoi and Wuchow and from all towns situated west of Wuchow, such as Nanning, which may subsequently be opened; or else the endemic area of Yunnan must be cured.

4°. Would the magnitude of the interests involved, and the intricacies of the situation, justify the appointment of a Plague Commission for the Far East?

5°. Could the Chinese Government be persuaded immediately to set about the necessary reforms in Wuchow and Pakhoi, in order to avert the threatened epidemic of 1900?

* *British Medical Journal*, 8th April 1899, p. 873.

Boats unhealthy as Residences.

In a former Report* I expressed the opinion that boats are, theoretically, healthy residences, provided that the bilge be not allowed to accumulate and become foul, and that the boat be anchored in a clean place. Experience now proves the Wuchow boats to be decidedly unhealthy residences in cases where the occupant, without exercising regular personal inspection, relies on the boatman to clean the hold, or anchors in an unclean neighbourhood, or, which is an evil more difficult still to avoid, lives in the closest proximity to his own servants *plus* the boatman's family. In my opinion it would be safer to live in a caravan with English gypsies than to live with the boatman's family on a Wuchow boat. A few instances will explain this.

In the third week in August Mr. H. and three of the Chinese living on his boat were simultaneously attacked with ague. The neighbourhood was healthy country, on the south side of the West River; no mud banks were uncovered, as the river was in flood; the boat was, moreover, anchored an unusual distance from the shore. It seemed reasonable to infer that the malarial parasite was being generated on board the boat. The boatman had received orders to bale out the bilge, and had reported all clean. An inspection of the hold, however, displayed some inches of mud generating hundreds of mosquitoes directly under, of course, and solely ventilating into, the living apartments. The bilge was removed, instructions given for a teaspoonful or two of kerosene to be poured into each compartment at least once a week after cleaning, and some holes were drilled in the sides of the hold for ventilation. An examination, by no means exhaustive, of the mosquitoes on board did not reveal, as expected, females with elongated palpi of the *Anopheles maculipennis* species, but striped mosquitoes having short labial palpi, without spots on wings, apparently of the *Culex* species. There may be minute differences between Kwangsi and Indian mosquitoes, and the study of Kwangsi mosquitoes yet remains to be made. For medication, phenacetin, quinine, and Warburg's tincture internally, and an inunction of equal parts of creosote and olive oil externally were employed.

On another boat, on the 12th July, L. S. was feverish, with profuse coryza and injected conjunctivæ, as though threatened with an attack of influenza. The acute symptoms yielded instantly to inhalations of eucalyptus oil, a boric-iodoform-cocaine snuff, a dilute chloride of ammonium solution as a nose wash, and, internally, a grain of calomel, followed by a diaphoretic mixture. For more than a month thereafter the patient suffered from an intractable intermittent malarial fever, although kept under the influence of quinine, with but few temporary interruptions, throughout the illness. There were no ascarides, albuminuria, or typhoid reaction with the sulphanilic acid test. The boat was old, and contained some decayed timber, which was afterwards replaced with new wood. There was no mud in the hold; but in the darkness and damp a noxious mould and large numbers of beetles and other insects flourished. Within a short period covering and overlapping my little patient's fever, no less than five of the boatman's family died on the boat.

* Customs *Medical Reports*, lvi, p. 16.

The saddest case was that of two children but newly out from home, aged about 2½ years and 1 year respectively, whose parents lived on another of these Wuchow boats. The boat was anchored near the Customs pontoon, a filthy neighbourhood, near a latrine, and a bank upon which is the organic refuse of the neighbouring hovels. Shortly after arrival the children began to suffer from diarrhœa. At first a preliminary dose of castor oil, followed by an astringent mixture, with quinine and a ferruginous tonic, and an exhortation to the amah on no account to allow anyone to give the children food to eat other than that which their parents provided, was successful. But the cause of the trouble lingered about the boat, and on the 14th July I found the elder child lying listlessly on the deck, having been already ailing for five days, suffering from fever and diarrhœa; the baby was also suffering from diarrhœa and boils. The insidious onset, lack of benefit from the administration of quinine, peasoup character of the stools, and a pink spot on the abdomen of the elder child, led to the diagnosis of typhoid fever. In spite of unremitting attention and devoted nursing, the child passed away after 15 days illness. The baby was carried to Hongkong, and succumbed after a month's illness. There were no signs of typhoid fever, but the cause of death was malarial fever, followed by general furunculosis and septicæmia. The parents are now childless.

In view of these facts I trust that healthy houses will soon be provided for the Customs staff.

Mortality.

During the period under review there have been five deaths among the foreigners resident in this part of Kwangsi—two in Wuchow; one in the country near T'angun, on a journey; and two in Hongkong; viz.:—

Male, aged 2 years and 7 months. Typhoid fever; died 24th July 1899, at Wuchow.
Female, aged 1 year. Furunculosis and septicæmia; died 14th August 1899, at Hongkong.
Male, aged 24 years (?). Cholera (?); died at Hongkong.
Male, aged 62 years. Anthrax; died 22nd September 1899, at Wuchow.
Female, aged 1 year. Malarial fever (?); died 30th September (?) 1899, near T'angun.

Cemetery.

The Prefect has kindly given the foreign community a piece of ground near the Eastern Hill temple, on the right bank of the Fu River, to be used as a burial ground. Two interments have already taken place.

Hospitals.

There is no hospital in Wuchow under foreign superintendence as yet, but a small matshed has been temporarily placed on the Wesleyan Mission grounds by the Tai Kong Kung T'ong, for the treatment of four soldiers suffering from gunshot wounds.

The native hospital, the Kwang-yan I-un, has treated about 40 patients since its opening. There was no patient in residence when I last visited it, and some of the walls are falling down.

TABLES.

The tabular view of diseases and Custom House meteorological statistics are added.

TABULAR VIEW OF DISEASE AT WUCHOW, April to September 1899.

MONTH.	IMPERIAL MARITIME CUSTOMS STAFF.				
	FOREIGNERS.				NATIVES.
	Men.	Women.	Children.	Residence.	
April	Diphtheria			Pontoon.	—
	Indigestion (premonitory of jaundice in June).			Boat.	
	Influenza			Temple.	—
	Septic wound of hand.			Pontoon.	
May	Hordeolum			Native house	Malarial remittent, fissure, external hæmorrhoid.
	Tinea circinata		Diarrhœa	Boat.	
June	Furunculus			Native house.	—
	Catarrhal jaundice	Dyspepsia	Vaccination	Boat.	
	Rheumatism			Temple.	
July	Furunculus		Influenza	Boat.	—
			Typhoid	,,	
			Malarial remittent	,,	
August	Malarial remittent		Malarial remittent	Boat	Ague cake, ulcer of toe, diarrhœa.
	Quotidian ague	Anorexia		,,	
	Ulceration of cornea			,,	
September	Malarial remittent		Malarial remittent	Boat.	—

MONTH.	FOREIGN RESIDENTS AND VISITORS.					
	MISSIONARIES.				MERCHANTS, ETC.	
	Men.	Women.	Children.	Residence.	Adults.	Residence.
April					External hæmorrhoid.	Shop.
May	—	—	—	—	—	—
June		Diarrhœa	Dysentery	House	Otitis	Shipboard.
July	Typhoid fever			House in town.	—	—
	Gallstone colic			House.		
August	—	—	—	—	—	—
September	Anthrax			House in town.	—	—
		Contagious pemphigus.	Quotidian ague.	House.		

Tabular View of Disease at Wuchow—*Continued.*

Month.	Chinese residents and visitors.		
	Men.	Women.	Children.
April	Diphtheria (cattle plague), bubonic plague, dysentery, diarrhœa alba, malarial fever, malarial nephritis, rheumatism, phthisis, struma, conjunctivitis, cholera, opium habit, dental caries, bronchitis, asthma, chronic ulcer, scabies, gutta rosea, gleet, stricture and retention, spermatorrhœa, colic.	Plague, syphilis, anæmia, dyspepsia, dysmenorrhœa.	Plague, diphtheria, acute nephritis, piece of metal swallowed, ascarides, colic, slit ear.
May	Plague, dysentery, malarial fever, opium habit, chronic rheumatism, paraplegia, phthisis, bronchitis, dilated stomach, gleet, spermatorrhœa, Bright's disease, ulcers, acne rosacea, tinea.	Plague, diarrhœa, anæmia, emesis, otitis, traumatic ulcer, syphilis.	Plague, meningitis, ascarides, wound of finger, quotidian ague.
June	Plague, furunculus, struma, ague cake, gonorrhœal rheumatism, syphilitic psoriasis, perforating ulcer of foot, sarcoma, hæmorrhoids, gonorrhœa, cataract.	Plague, dysentery, confinement, sprained wrist, gastric catarrh.	Plague, dysentery, acute rheumatism, whooping-cough, diarrhœa.
July	Dysentery, malarial remittent, quotidian ague, erysipelas, scabies, tinea, chronic ulcers, lipomo, syphilitic osteitis.	Goitre, bronchitis, puerperal fever, dropsy, indigestion.	Measles, dysentery, urticaria, catarrhal pneumonia.
August	Malarial remittent, typhoid, furunculus, tubercular leprosy, paraplegia, dysphonia, synovitis of knee-joint, chronic rheumatism, lumbago, scabies, ulcers, hydrocele.	Diarrhœa, ruptured perinæum.	Diarrhœa, punctured wound, Bright's disease, catarrhal ophthalmia.
September	Malarial remittent, gunshot wounds, strychnia poisoning, anæsthetic leprosy, ascites, hypochondriasis, scabies, tinea.	Pemphigus, malarial remittent, diarrhœa.	Dysentery.

Meteorological Table, April to September 1899.

Month.	Thermometer.						Barometer.		Rainfall.	
	Maximum.	Minimum.	Maximum Mean.	Minimum Mean.	Maximum Dry.	Minimum Wet.	Maximum.	Minimum.	No. of Hours.	Quantity.
	° *F.*	° *F.*	° *F.*	° *F.*			*Inches.*	*Inches.*		*Inches.*
April	85.0	50.0	76.7	64.0	84.0	48.0	30.37	29.80	45	5.74
May	91.0	63.0	84.7	73.3	90.0	63.0	30.20	29.69	51	8.25
June	93.0	70.0	86.5	76.1	92.0	70.0	30.02	29.67	42½	7.51
July	96.0	77.0	91.2	79.1	95.0	70.0	29.99	29.60	25	3.69
August	95.0	73.0	89.3	78.4	94.0	73.0	30.01	29.50	26⅝	5.67
September	93.0	66.0	88.2	74.6	93.0	60.0	30.20	29.82	13¾	3.07

Rainfall for the week preceding 12th May, 1.71 inches during 17½ hours on four days.
Rainfall for the week following the 12th May, 2.19 inches during 12 hours on two days.

DR. LOWRY'S AND DR. McCANDLISS' REPORT ON THE HEALTH OF HOIHOW AND KIUNGCHOW

For the Year ended 30th September 1899.

FOREIGN POPULATION.

Male adults	22
Female adults	12
Male children	6
Female children	6

There have been two births—one male and one female.

The general health of foreigners during the period under review has been, on the whole, fairly good.

The following cases have been treated and observed during the past 12 months:—

Carbuncle.
Dhobi itch.
Diarrhœa.
Dysentery.
Gonorrhœa.
Gout.
Hepatic congestion.
Intestinal worms (ascaris lumbricoides).
Optic neuritis.
Otitis catarrhalis and otorrhœa.
Paraplegia.
Pleuritis.
Pulmonary tuberculosis.
Remittent fever.
Splenitis.
Stricture of rectum.
Syphilis.

Malarial fever of a remittent type is still prevalent, and foreigners suffer to a greater or less extent, more especially when the wind blows from the north over the Baksha muddy flats; this Dr. LOWRY observed 10 years ago when stationed at this port.

A case of carbuncle was observed in a foreigner long resident in the East. The site was an unusual one, over the ankle-joint. He at the same time suffered from remittent fever of a rather persistent type. His house faced the north and the Baksha mud flats.

A member of the Customs in-door staff suffered from chronic dysentery, and, after being granted sick leave, was transferred to a northern port.

During the month of August, when the revenue steamer *Likin* was stationed in this district, a number of sailors were sent ashore for treatment. One of these complained of weakness of the left knee, and his case somewhat simulated beri-beri. His tendo reflexes were weak. Blisters and the electric battery improved his condition. A youth on the same ship received, through the bursting of a soda-water bottle, a severe incised wound of the wrist, which necessitated suturing; the radial artery escaped injury.

Foreign-built houses are accomplished facts: the American Presbyterian Mission has three houses, the British Consulate is fast approaching completion, and the French Consulate is completed and was opened and occupied on the 11th September. So far no Customs buildings or quarters of a European type have been erected.

DURING the summer there was a slight epidemic of Asiatic cholera, and it broke out also in the Mission Hospital. The first victim was a baby, whose attack was so quickly fatal that little could be done. Being put on the alert by this first case, the other cases as they occurred were at once removed to the isolation ward. Sulphuric acid and opium by the mouth, sinapisms to the abdomen, and large tannic acid enemas were used during the first stage. The collapse was treated by the intravenous injection of the normal salt solution, a quart every four hours. There was difficulty in two cases in finding a vein; but by placing the foot in a dependent position, and constricting the leg below the knee, the long saphenous became evident, and the aspirating needle was inserted just above the ankle. The immediate effect of the intravenous injection was wonderful: the voice would return, and even colour come to the cheek, but in an hour or hour and a half the same cold, clammy, almost lifeless, condition would return. Of the eight patients treated in the hospital, five died; all of these, except the baby, had had the intravenous injection. Having treated numerous cases in four former epidemics, together with these, the conclusion is forced home that active treatment of any plan used up to date is not at all sure of success, and more is to be gained by nursing, keeping patients skin wiped off dry, rubbing cramped muscles with dry cloth, and frequent sips of water acidulated with aromatic sulphuric acid.

Of the few cases of vesical calculi, two were of peculiar interest. The first was operated on by Dr. JOHN G. KERR while he was making a short visit to the port, thus availing ourselves of his extensive experience in that line. On account of the size of the stone, the supra-pubic operation was selected. Owing to the position of the stone in the neck of the bladder, the organ was injected with difficulty and to such a slight degree that, when the incision was made above the pubis, the bladder could not be found. The wound was closed with great care, and the patient shifted to lithotomy position. The lateral perineal incision was then made; but the size of the stone was such that the wound had to be enlarged again and again until finally the rectum was wounded. After great effort a calculus weighing slightly over 4 ounces troy was removed. Fearing that urine would leak through the wound into the rectum, it was decided to enlarge that wound by cutting clear through the sphincter before placing the canula. Owing to the diseased state of the bladder walls, and the extent and severity of the operation, the patient's life was not assured until 10 days after the operation. After that, however, he did well, and went home cured on the 43rd day.

The second case was that of a Chinese girl, aged 21, with constant dribbling of urine. Examination showed a large vesical calculus, which had ulcerated through the vesico-vaginal wall, the portion presenting in the vagina being about the size of a 50-cent piece. The operation was long and tedious. Attempts were made to inject the bladder, but without success.

The under surface of the urethra was slit up as far as the stone, and the vesico-vaginal wall was divided beyond the stone. The forceps was unable to deliver the stone *en masse*, but bit off fragments again and again, and the operation was finished with the lithotomy scoop, in the presence of a large stream of warm water. The operation lasted 1 hour and 20 minutes, and was followed by much shock. The collected fragments of stone weighed about 4½ ounces troy. Patient made a fair recovery from operation, and the urethral part of the wound healed by first intention. The attempts to close the vesico-vaginal fistule, however, are most disheartening, and the closure has not yet been effected.

One case of preputial calculus was circumcised. There were three large and many small calculi, aggregating 465 grains in weight.

Four cases of fistula in ano have been treated by complete excision of the diseased tissue and the use of deep sutures, resulting in union by first intention.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS taken at the Custom House, Hoihow (Kiungchow), October 1898 to September 1899. (Latitude, 20° 3′ 13″ N.; longitude, 110° 9′ 3″ E.)

Month.	Wind.							Barometer.		Thermometer.		No. of Days Fog.	Rainfall.	
	No. of Days N. to E.	No. of Days E. to S.	No. of Days S. to W.	No. of Days W. to N.	No. of Days Variable.	No. of Days Calm.	Average Hourly Force.	Highest.	Lowest.	Highest.	Lowest.		No. of Days.	Quantity.
1898.								*Inches.*	*Inches.*	° *F.*	° *F.*	*D. h.*	*D. h.*	*Inches.*
October.....	18	5	1	4	...	3	2	30.31	29.94	83	71	...	2 9	2.87
November...	25	2	...	3	...	...	3	30.56	30.00	79	61	...	0 5	0.73
December....	28	3	...	...	...	...	3	30.55	30.18	72	60	...	0 13	0.10
1899.														
January.....	24	7	...	...	...	...	3	30.60	30.19	71	51	...	...	...
February.....	16	9	...	1	1	1	2	30.51	30.03	78	53	0 2	0 5	0.10
March.....	25	5	...	...	1	...	3	30.45	30.08	78	61	0 5	0 12	0.84
April.....	10	8	4	...	8	...	2	30.38	29.91	89	62	...	1 7	2.34
May	9	7	2	2	11	...	2	30.30	29.83	89	71	...	0 6	0.49
June	5	6	8	4	7	...	2	30.17	29.82	96	76	...	2 16	10.92
July.....	4	4	8	8	7	...	3	30.09	29.45	90	79	...	1 1	6.66
August.....	2	4	6	12	7	...	2	30.10	29.66	88	79	...	0 14	3.89
September...	13	17	...	...	...	...	2	30.25	29.94	88	78	0 2	0 22	3.77

Dr. A. SHARP DEANE'S REPORT ON THE HEALTH OF PAKHOI

For the Eighteen Months ended 30th September 1899.

From the date of my last Report—31st March 1898—to the end of January this year the health of the district was exceptionally favourable. During the past 12 years there has been no period of 10 consecutive months which includes the months from May to September in which the population was so free from disease as from April 1898 to the end of January of the current year. Cholera, dysentery, and diarrhœa, the common epidemics which appear with some regularity from July to September, were not heard of in the district, and, but for casual and timely deaths, the coffin-makers business was comparatively at a standstill.

This state of ease was not destined to continue. The usual January and February rains had not fallen; the upper street of the town was gradually becoming loathsome; and early in February a death from plague was reported. From that time until the middle of July the disease lingered in the streets. As on former occasions, the epidemic occurred at first as isolated cases in different parts of the town, and not until April did it assume a more serious aspect, when whole blocks of buildings became infected.

The rain that fell from October 1898 to the end of March 1899 amounted to 1.26 inches only, and nearly all the wells had run dry. The stench from fermenting filth can better be imagined than described. Nothing was now lacking but a little moisture to cultivate the disease on a large scale in most parts of the town. Considerable sums of money were spent on processions and religious ceremonies, for the purpose of driving away the plague; but all to no avail.

During April 1.70 inches of rain fell—just enough to give vigour to the bacilli lying at nearly every door. Until now the epidemic had not attained to any great proportions; but after the 20th of the month it became general throughout the town, affecting the filthy parts in a manner that only plague and typhus fever are capable of doing. Merchants fled from their hongs and many houses were deserted, the occupants leaving for places of safety in the *hinterland* of the port. The coffin-makers were unable to supply the demand, and coffins were imported from the town of Kaotuk.

About this time intelligence reached us that the village of Tikok, about 2 miles to the westward of us, had been deserted. A foreigner subsequently verified the statement that all the people there had fled; and he reports that dead bodies had been thrown out on the seashore and were only covered with sand. He described the stench of that neighbourhood as being lethal.

The rain that fell in May—2.23 inches—helped only to feed the germs of the disease and to distribute them more widely than before, by carrying filth from the upper into the lower street of the town. The disease was at its zenith from about the 20th April until the middle of June, when heavy rain at last came to the rescue and cleared away some of the putrescent garbage. The rains setting in shortly after completed the cleaning up of the

streets, and the deaths then diminished as by magic, and by the end of July plague had disappeared from Pakhoi.

As to the number of persons that succumbed to the disease, actual figures cannot be obtained, but from start to finish of the epidemic the total would certainly not be overestimated at 800. The deaths during February and March showed that the disease was on the increase, but not until the middle of April was there much cause for alarm. From this date to the 20th June death worked with appalling certainty: few of those attacked seemed to have any chance of recovery; while subsequently to the 20th June, after heavy rain had fallen and the disease was on the decline, many of those attacked recovered—among others, one of my own servants.

Plague made its appearance in the town of Kaotuk, situated on the seashore some 2 miles to the eastward of Pakhoi, at a very much later date than it did here, but lasted late into August, when this port had been free from it for over a month. Strange to say, the prefectural city, Lien-chou, about 10 miles to the northward, a place with which we have an extensive mercantile connexion, was comparatively immune; but a sharp epidemic of an affection, said to be cholera, existed there during July, while nothing of the kind occurred here.

It may be asked what preventive measures are taken before and after plague has made its appearance here, a question which can easily be answered by saying that preventive measures never enter the minds of the people: they depend upon nature to rid them of all their pests; and should they be badly smitten in any particular epidemic, they take it to be due to their bad luck, not to anything on their part that they have left undone. Most of the epidemics that are experienced here, particularly that of plague, occur after a long-continued drought, and heavy rain on such occasions speedily puts a stop to the disease. I speak for Pakhoi only, for I notice in reports from other parts of the world that plague in some places is worse during the rains. Here, however, a continuous rainfall, amounting to 5 or 6 inches, invariably rids us of plague.

Foot-and-mouth disease, which was so prevalent among cattle during the first quarter of 1898, has not since reappeared here; but as I write it is reported that a fatal affection characterised by diarrhœa has broken out in some of the villages of this district, attended with, it is said, a mortality of about 50 per cent. of the herds, both of oxen and buffaloes.

METEOROLOGICAL TABLE, April 1898 to September 1899. (Latitude, 21° 29′ N.; longitude, 109° 6′ E.)

MONTH.	THERMOMETER.			RAINFALL.	MONTH.	THERMOMETER.			RAINFALL.
	Highest.	Lowest.	Mean.			Highest.	Lowest.	Mean.	
1898.	°F.	°F.	°F.	*Inches.*	1899.	°F.	°F.	°F.	*Inches.*
April	87	55	71.76	6.56	January	77	44	56.21	0.47
May	94	63	82.59	8.72	February	80	46	61.76	0.54
June	94	74	84.80	9.25	March	81	50	70.50	0.16
July	94	73	83.12	26.43	April	90	52	72.91	1.70
August	93	73	83.37	31.96	May	92	67	80.75	2.23
September	92	72	82.48	7.23	June	92	70	82.83	10.00
October	91	63	79.51	0.02	July	96	75	84.45	19.83
November	85	49	69.88	0.07	August	94	71	83.90	29.60
December	77	49	62.58	...	September	94	69	82.28	10.16

RAPPORT MÉDICAL

DU 1ER AVRIL AU 1ER OCTOBRE 1899, SUR LA SITUATION SANITAIRE DE MONGTZE,

Par le Docteur E. REYGONDAUD.

CLIMATOLOGIE.

Les troubles survenus à Mongtze le 21 juin dernier ont malheureusement interrompu les observations météorologiques. Les quelques instruments qui étaient à ma disposition ont été détruits. Les observations s'arrêtent donc au 21 juin.

Baromètre.—Les pressions maxima moyennes ont été 652.6 en avril, 652.3 en mai, 652.6 en juin (21 jours). Les pressions minima moyennes ont été 650.5 en avril, 650.2 en mai, 650 en juin (21 jours). Les plus hautes pressions sont 656 en avril, 657 en mai, 657 en juin; les plus basses, 648 en avril, 646 en mai, 647 en juin.

Thermomètre.—La chaleur atteint son maximum en mai avec 32° centigrades pendant deux jours, 31° (un jour), 30° (trois jours). En avril le maximum n'avait atteint que 29°; en juin il n'a été que de 30°. Les moyennes maxima sont 25°.8 en avril, 27° en mai, 26°.5 en juin. Les moyennes minima sont 13°.4 en avril, 16°.1 en mai, 16°.8 en juin.

Pluies.—Les pluies sont venues de très bonne heure. Au mois d'avril, $20^{mm}.4$; en mai, $55^{mm}.4$; en juin, pendant les 21 jours observés, $72^{mm}.7$. La fin du mois de juin a été très belle, sèche même. Il y a eu à cette époque une véritable interruption dans le régime des pluies qui a même fortement émotionné la population pour ses récoltes. Vers le milieu de juillet sont alors arrivées les grosses pluies. Le mois de septembre a été le type parfait du mois de transition.

Vents.—Toujours les vents du sud, oscillant du S.O. au S.E. Très violents en hiver, leur intensité diminue considérablement en été. Prenant pour évaluer leur force une cote de 0 à 7, nous trouvons en avril un jour avec vent coté 7, trois jours avec cote 4, huit jours avec cote 3; la cote 1 ne se voit que neuf jours. Au contraire, en mai nous avons 23 jours cotés 1, pas de cotes au-dessus de 3. En juin sur 21 jours observés 13 cotes 1. Les vents de S.E. amènent généralement les grosses pluies.

PATHOLOGIE.

La saison d'été, qui est ordinairement la plus intéressante au point de vue médical, a été terne par suite de la non-apparition de l'épidémie de peste. Il n'y en a pas eu cette année

un seul cas à Mongtze, fait extraordinaire qui ne s'était pas produit depuis de longues années. En 1895 il y avait eu une épidémie terrible et depuis, chaque année le nombre des décès et des cas allait en diminuant. L'année dernière j'étais arrivé à la fin de l'épidémie qui commence généralement dans les premiers jours de juillet pour prendre fin dans la première quinzaine de septembre. À quoi donc attribuer cette absence? La propreté de la ville, il est presque inutile de le dire, n'a pas fait le moindre progrès. Peut-être faut-il en voir la raison dans le fait qu'il n'y a pas eu cette année de saison sèche à proprement parler et que les germes ont été noyés par les pluies. Je n'oserai cependant pas donner cette explication pour certaine, c'est une simple supposition. Les Chinois ne vont pas il est vrai chercher si loin. Au mois de mai ils affirmaient purement et simplement qu'il n'y aurait pas de peste car ils avaient fait des sacrifices aux divinités et aux ancêtres!

Les maladies observées et traitées ont donc été des plus courantes et ne présentent rien de bien particulier à signaler.

Pathologie externe.

Kératite	9	Brûlures	2
Conjonctivite	11	Entorse	1
Ptérygion	8	Lumbago	1
Opacités de la cornée	10	Fracture ancienne	1
Entropion	1	Abcès et phlegmons	7
Ophtalmie purulente	1	Plaies et ulcères	70
Blepharite	2	Contusions	9
Carie dentaire	4	Hémorrhoïdes externes	1
Periostite alvéolo-dentaire	2	Morsure de chien	1
Otite externe	1	Effort musculaire	1
Perforation du tympan	1	Plaie par arme à feu	1
Otorrhée	1	Ulcères variqueux	1
Cystite	2	Sciatique	1
Érysipèle de la face	1	Tænia	2

Maladies cutanées et vénériennes.

Gale	20	Gommes syphilitiques	2
Eczema	2	Ecthyma syphilitique	1
Herpès circiné	4	Chancre phagédénique	1
Érythème	1	„ mou	2
Lèpre	2	Uréthrete blennorrhagique	8
Furonculose	1	Épididymite	3
Accidents secondaires	5		

PATHOLOGIE INTERNE.

Fièvre paludéenne	17	Coryza chronique	1
Bronchite	7	Dyspepsie	1
Rhumatisme articulaire	4	Dilatation de l'estomac	1
Asthme	2	Gastrite	1
Embarras gastrique	10	„ opiacée	10
Empoisonnement par opium	1	Diarrhée	13
Anémie	2	Dyssenterie	1
Aortite	1	Congestion du foie	1

RAPPORT MÉDICAL SUR LA SITUATION SANITAIRE DE SSEMAO

POUR LA PÉRIODE ANNUELLE COMPRISE ENTRE LE 1ER SEPTEMBRE 1898 ET LE 31 AOÛT 1899,

Par le Docteur LAURENT GAIDE.

I.—POSITION, SITUATION ET CARACTÈRES GÉOGRAPHIQUES GÉNÉRAUX.

La ville de Ssemao se trouve par 22° 46′ 30″ de latitude nord, et 98° 47′ 30″ de longitude à l'est du méridien de Paris—par conséquent, dans la région prétropicale proprement dite. Son altitude est de 1,338 mètres au-dessus du niveau de la mer. Elle est bâtie sur une éminence qui est pour ainsi dire soudée à la chaîne des hautes collines qui limitent la plaine. Celle-ci est des plus irrégulières, par suite de nombreux mamelons, véritables prolongements des montagnes environnantes, et elle est traversée du sud au nord-ouest par une toute petite rivière qui se rend au Mékong. La plaine de Ssemao se trouve ainsi dans le bassin de ce dernier fleuve, près du sommet de la ligne de partage des eaux qui sépare ce bassin de celui de la Rivière Noire. Toute la région voisine est très accidentée, très montagneuse comme les autres parties sud du Yunnan, dont elle diffère cependant en ce qu'elle est mieux reliée que ces dernières aux contrées chaudes et basses avoisinantes (États Shans Chinois), et qu'elle est relativement plus boisée. Ces deux caractères sont importants, parce qu'ils me paraîssent devoir expliquer les particularités suivantes: une flore plus variée, une faune plus riche qu'ailleurs, et surtout une climatologie bien différenciée, se rapprochant beaucoup plus de celle d'un vrai pays prétropical que de celle d'un pays tempéré, cela malgré l'altitude.

II.—CLIMATOLOGIE.

Le climat de Ssemao est modérément chaud mais très humide; il comporte deux saisons bien différenciées: la saison sèche qui s'étend du 15 octobre au 1er mai, et la saison des pluies comprise entre le 1er mai et la fin octobre. Mais comme cette distinction n'est pas absolue, l'année pourrait, à la rigueur, se diviser en quatre saisons fort inégales: l'été, du 1er mai au 1er octobre; l'automne, d'octobre à la fin novembre; l'hiver, de décembre à la fin de février; et le printemps, de mars à fin avril. Les deux saisons intermédiaires, quoique peu tranchées, sont caractérisées par une température assez élevée au milieu du jour, et par des nuits en général fraîches et agréables.

Décembre, janvier et février sont les mois les plus frais; le ciel est quelquefois couvert d'une légère brume pendant la journée, et des brouillards plus ou moins intenses existent presque toujours pendant toute la matinée. La température devient alors assez froide pour nécessiter l'usage des vêtements chauds, et du feu dans les appartements, si l'installation de ceux-ci le permettait.

En mars la température monte rapidement au milieu du jour, mais les nuits sont toujours bonnes.

Avril et mai sont les mois les plus chauds; ils constituent, entre la saison sèche et la saison des pluies, une période de transition, pendant laquelle se produisent de fréquents orages; le ciel est alors souvent couvert, l'atmosphère lourde, et le soleil ardent répand, au travers de cette brume, une chaleur humide désagréable; les nuits sont quelque peu pénibles.

Les mois de juillet et d'août sont les plus pluvieux. À la fin octobre la fraîcheur commence à se faire sentir, surtout la nuit; ordinairement il ne pleut plus, et l'humidité diminuant, la chaleur du jour est des plus supportables. En novembre l'air devient plus léger et plus sec, et la température est très agréable.

Pluies.—La saison des pluies ne commence ordinairement qu'en mai pour finir au début d'octobre; mais les années présentent sous ce rapport des différences très appréciables. En 1896 et en 1898 elle n'a débuté qu'à la fin de juin. Tandis que cette année-ci (année on ne peut plus pluvieuse) des pluies régulières ont fait leur apparition dès le commencement de mai. Par contre, la fin de cette saison des pluies est beaucoup plus régulière, et se produit presque toujours dans les premiers jours d'octobre. La quantité d'eau tombée pendant cette période annuelle a été de 1^{m}.598, dont 55 centimètres 16 millimètres en juillet. En dehors de la saison des pluies proprement dite, il n'y a pas de mois où l'on n'observe quelques ondées plus ou moins fortes. On note quelquefois de la grêle, et le phénomène de l'arc-en-ciel est très fréquent.

Vents.—Les vents d'ouest et de sud-ouest prédominent pendant la saison sèche; ce sont en général des vents agréables qui soufflent surtout au milieu du jour. Celui du sud-est est frais et humide; il règne pendant les mois pluvieux. Le vent tout à fait du sud est rare; quant à ceux du nord, du nord-ouest, et du nord-est, c'est à peine si on a l'occasion de les noter à l'époque des orages, et au moment des fortes averses. La force du vent, presque toujours modérée, est quelquefois assez forte pour agiter les grosses branches.

Nuages: nébulosité.—Les nuages existent d'une façon permanente; ce sont les cirro-cumulus et les strato-nimbus qui prédominent. De novembre à la fin mars ils sont rares, et peu nombreux pendant les nuits qui sont ainsi toujours fraîches et souvent froides. La nébulosité n'égale jamais zéro; les chiffres les moins élevés ont été relevés pendant les mois

de novembre et de mars. Alors, le ciel, embrumé le matin, se dégage de toute vapeur dès que le soleil monte à l'horizon, et les après-midi et les nuits sont en général belles. Il est difficile d'indiquer qu'elle est la direction des nuages; quant à leur rôle hygiénique, qui consiste à modifier les conditions de l'insolation à la surface de la terre, on peut dire qu'il est ici fort diminué, la quantité de calorique arrivant au sol n'étant pas suffisante, je crois, pour occasionner soit un coup de soleil, soit un coup de chaleur.

Orages.—Exceptionnels pendant les trois mois d'hiver, sont fréquents en avril, mai et juin. Quoique désagréables, ils n'offrent jamais les mêmes inconvénients que, en plein pays tropical, c'est-à-dire cette atmosphère lourde, énervante, pénible, en un mot caractérisée par une forte tension électrique.

Température.—La température moyenne de cette période annuelle a été de 18°.9. Les températures maxima (32°) et minima (3°) ont été observées: la première le 28 mai, et la deuxième le 17 janvier.

Les écarts thermométriques entre les différentes heures du jour sont assez prononcés en automne et en hiver, tandis que, pendant les mois de l'été, le thermomètre varie peu. C'est ainsi que, pendant les mois d'hiver, la température descend souvent à 5°, 7° pendant la nuit, pour remonter à 23° dans le milieu du jour; et que, durant l'été au contraire, le thermomètre se maintient entre 18° et 24° la nuit et le jour.

Baromètre.—On peut dire que les variations barométriques sont insignifiantes ou à peu près; elles oscillent entre 649^{mm}.8 et 634^{mm}.3, qui indiquent les pressions maxima et minima (absolues).

État hygrométrique.—Faute de psychromètres, il m'a été impossible de prendre des observations concernant la tension de la vapeur d'eau atmosphérique. Mais il y a tout lieu de croire que la courbe hygrométrique, assez uniforme pendant la saison sèche, doit présenter, au début et pendant toute la saison des pluies, des irrégularités nombreuses et de notables oscillations. Un fait qui s'impose à l'observation la plus élémentaire, c'est la grande humidité du climat. Celle-ci, très accusée pendant les mois pluvieux, au point d'atteindre tous les objets (oxydation des matières métalliques, moisissure des vêtements, etc.), est encore appréciable pendant la saison sèche, à cause de l'existence de brouillards et de brumes très denses qui ne disparaîssent que tardivement dans la matinée. Les brouillards se produisent plus particulièrement pendant la période suivante: de novembre à fin mars, tandis que les brumes existent en toute saison avec plus ou moins de fréquence.

Tremblement de terre.—À signaler, pour terminer ce rapide aperçu climato-météréologique, trois légères secousses de tremblement de terre observées aux dates ci-après: la première, le 22 janvier, dans la nuit; la deuxième, le 28 février, à 6 heures du soir; la troisième, le 14 mai, à 11 heures 38 du soir.

RELEVÉ DES OBSERVATIONS MÉTÉRÉOLOGIQUES du 1er septembre 1898 au 31 août 1899.

MOIS.	TEMPÉRATURES MOYENNES.			PRESSIONS BAROMÉTRIQUES MOYENNES.		JOURS PLUVIEUX.	VENTS DOMINANTS.	NUAGES : FORMES.	NÉBULOSITÉ : DE 0 À 10.	ORAGES : NOMBRE.
	Max.	Min.	Gén.	Max.	Min.					
1898.				*Mm.*	*Mm.*					
Septembre....	25.2	19.0	22.1	643.3	640.1	20	S.	Cumulo-nimbus	5	5
Octobre.....	25.9	15.0	20.4	645.7	642.0	8	S.O.	Cirro-stratus	3	1
Novembre....	23.1	11.0	17.0	647.7	644.9	3	O.	Strato-cumulus	2	...
Décembre.....	19.2	8.8	14.0	649.2	646.4	8	"	"	4	...
1899.										
Janvier.....	19.3	7.4	13.3	646.2	643.3	4	S.O.	Strato-cumulus	4	1
Février.....	20.2	7.3	13.7	646.2	642.5	4	"	Cirro-cumulus	4	2
Mars.....	25.1	12.2	18.6	644.1	640.2	4	O.	"	2	4
Avril	27.5	15.9	21.7	646.1	637.2	10	S.O.	Alto-cumulus	4	3
Mai	25.5	18.5	22.0	642.6	639.0	24	S.E., S.	Nimbus	6	9
Juin.....	24.9	19.1	22.0	640.2	636.9	28	S.E.	"	7	8
Juillet.....	23.0	18.9	20.9	641.0	638.0	31	"	"	8	7
Août.....	25.0	19.0	22.0	640.0	637.0	23	S.E., S.O.	Cumulo-nimbus	6	9
	Moyenne annuelle = 18.9					167 *			4½	49

* Quantité = 1m.598.

III.—PATHOLOGIE.

EUROPÉENS.

Pendant toute cette période annuelle l'état de santé des Européens a été satisfaisant. On peut dire d'ailleurs, d'une façon générale, que le climat de Ssemao n'a pas de suites fâcheuses pour eux, lorsqu'ils ne s'écartent pas des règles de l'hygiène. Il importe cependant de prendre certaines précautions, surtout si l'on arrive ici déjà impaludé, et de se méfier des transitions brusques de température et de l'humidité, deux causes qui provoquent avec facilité des accès fébriles, des coryzas, des bronchites et de la diarrhée. Les mois d'avril et de mai constituent la seule époque désagréable et quelque peu pénible, à cause de la chaleur beaucoup plus accusée, et parce que cette période de transition facilite l'éclosion de troubles gastro-intestinaux (embarras gastrique simple ou bilieux, coliques, entéro-colite avec alternatives de diarrhée ou de constipation).

ASIATIQUES.

Les maladies observées et traitées chez eux ont été aussi nombreuses que variées, surtout au point de vue pathologie interne; mais, vu le défaut d'une installation médicale appropriée à la surveillance des malades, il m'a été impossible d'attacher à quelques affections toute l'importance et tout l'intérêt qu'elles auraient mérités dans d'autres conditions. Les quelques notes suivantes sont donc pour la plupart de simples considérations générales.

Maladies des yeux.—Ce sont elles qui occupent la première place dans la pathologie de cette ville, et il faut citer en première ligne la kérato-conjonctivite chronique, consécutive à une érosion de la cornée produite presque toujours par des épis de riz, au moment de la moisson. À ce traumatisme cornéen s'ajoute bientôt l'infection qui détermine rapidement un ulcère à hypopyon, lequel aboutit ensuite à la perte de la vision et quelquefois de l'organe. Viennent après: la blépharo-conjonctivite chronique, les conjonctivites et kératites phlycténulaire et granuleuse, relevant ordinairement soit d'un mauvais état général (lymphatisme, scrofule), soit de la saleté corporelle.

Affections cutanées.—Très nombreuses. Gale, psoriasis, ecthyma, impétigo, prurigo, acné, phtiriase, ulcères divers, telles sont les plus fréquentes. J'ai eu l'occasion d'observer un cas d'éléphantiasis (forme lisse et glabre) de la jambe gauche, chez un jeune homme de la ville, et deux cas de lèpre (variétés tuberculeuse et anesthésique) siègeant à la face et aux mains qui étaient plus ou moins mutilées, amputées.

Maladies vénériennes.—Se rencontreraient plus souvent ici que dans plusieurs autres villes du Yunnan. Ce fait me paraît tenir aux causes suivantes: voisinage des États Shans et du Laos, où ces affections sont très répandues; mouvement continuel de caravanes, d'où présence d'un grand nombre de muletiers; et sans doute aussi prédominance de l'élément féminin dans la population de Ssemao.

Maladies infantiles.—Sont aussi très communes, et parmi elles il faut citer tout particulièrement l'athrepsie et le rachitisme. Nulle part ailleurs je n'ai vu comme ici l'athrepsie présenter un tableau symptomatique aussi complet; et, chose fort pénible, tout traitement est le plus souvent inutile. Les parents viennent en effet réclamer des soins lorsque les enfants sont à la dernière période de l'affection, c'est-à-dire à la période encéphalopathique avec coma, paupières closes, atrésie pupillaire, anesthésie cutanée. J'ai noté chez ces petits malades un cas de sclérème et un cas d'algidité progressive.

Vu la fréquence des troubles gastro-intestinaux, par suite de l'insuffisance alimentaire, les affections prurigineuses de l'enfance avec éruptions papuleuses sont loin d'être rares. L'acide lactique en potion m'a toujours donné de bons résultats, non seulement contre la gastro-entérite, mais aussi contre le prurit lui-même.

Troubles organiques relevant de l'opium.—Les affections du tube digestif sont très communes parmi les hommes; le plus souvent elles sont dûes à l'opium, dont toutes les classes de la population fait ici un sérieux abus. Voici brièvement exposés les quelques faits, sur lesquels mon attention a été attirée:—

1°. *Atonie gastro-intestinale.*—Les malades ainsi atteints présentent les symptômes que voici: inappétence, sensation de sécheresse de la bouche, éructations, quelquefois douleurs à l'épigastre, dilatation stomacale très accusée, au point que certains sujets examinés me déclaraient aussitôt qu'ils avaient "une grosseur, une boule," dont ils souffraient particulièrement après les repas. Particularité assez curieuse, en pratiquant la palpation abdominale, j'ai

trouvé, chez un grand nombre de ces malades, des masses dures, arrondies, disséminées sur tout le parcours du côlon, et surtout dans la fosse iliaque gauche; c'est-à-dire que tous ces fumeurs avaient de l'entéro-colite soit simple, soit muco-membraneuse avec constipation ou diarrhée. À côté de ces troubles particuliers à l'appareil digestif, venaient s'ajouter des troubles secondaires plus ou moins prononcés: de la céphalée, des vertiges, des palpitations, de l'amaigrissement, de l'anémie et quelquefois un véritable état cachectique.

2°. *Diarrhée chronique.*—Chez plusieurs autres fumeurs, l'abus de l'opium se traduit par de la diarrhée chronique, simple ou bilieuse, continue ou par poussées intermittentes. Le cas le plus typique se rapporte à un médecin de la ville qui était parvenu à un degré extrême d'affaiblissement, à la suite d'une sérieuse atteinte de diarrhée dyssentérique.

3°. *Impuissance sexuelle et spermatorrhée.*—Voici les quatre observations recueillies à ce sujet: tous les malades qui en font l'objet m'ont déclaré être de grands fumeurs; ils en avaient d'ailleurs le facies pâle, amaigri, avec le regard plus ou moins immobile. Le premier, un mandarin civil, me confiait qu'il était atteint d'une impuissance absolue, et que toute érection lui faisait défaut. Le deuxième, un mandarin militaire, un peu plus âgé (45 ans environ), était fort incommodé par un certain état d'érection, suivi aussitôt d'éjaculation, toutes les fois qu'il avait en sa présence une jolie femme. Le troisième, un jeune homme de Ssemao, récemment marié, était très contrarié et très affaibli par de nombreuses pertes séminales qui se produisaient avant les mictions ou au moment de la défécation. Le quatrième, un homme d'un village voisin, souffrait d'une spermatorrhée à manifestations nocturnes.

Ainsi l'opium exerce surtout son action sur le tube digestif et sur le système nerveux, et conséquemment retentit sur le fonctionnement des organes génitaux et sur l'état de santé général. On dirait que cette substance imprime à tous ceux qui s'y adonnent avec passion un habitus extérieur, *sui generis;* elle agit sur l'organisme tout entier, qu'elle frappe d'une certaine déchéance, en ralentissant les échanges de l'économie, et en amoindrissant le jeu des principaux organes. Le grand fumeur est ainsi sous le coup d'une intoxication chronique, dont les effets dépendent des conditions suivantes: de la provenance de la substance, de son mode de préparation, de la dose journellement employée, du tempérament et de la condition sociale du fumeur.

En dehors d'une étude détaillée concernant la pathogénie et la symptomalogie des troubles organiques déterminés par l'opium, il me semble que les confrères, qui exercent dans les grands centres chinois, pourraient faire des recherches sur certaines questions non encore définitivement élucidées, par exemple: la morphine est-il le seul agent actif du plaisir éprouvé par le fumeur? les effets produits par l'inhalation et par l'ingestion sont-ils identiques? chez un fumeur, l'opium peut-il déterminer un empoisonnement aigu? le poumon est-il bien atteint et pénétré par les alcaloïdes dans l'inhalation de la fumée? combien pénètre-t-il de ces alcaloïdes et surtout de morphine par la bouche et dans les poumons du fumeur avec la fumée aspirée?

Je signalerai, en terminant, la funeste habitude qu'ont les femmes de Ssemao d'utiliser cette substance lorsqu'elles désirent attenter à leur vie.

Les *empoisonnements par l'opium* sont relativement nombreux; je n'ai eu à déplorer aucun décès dans tous les cas que j'ai eu l'occasion de soigner.

Paludisme.—Vu l'altitude à laquelle se trouve Ssemao, on pourrait croire que la fièvre palustre y fait défaut; il n'en est rien cependant, et la chose est aisée à comprendre, si l'on tient compte des multiples conditions générales et individuelles qui favorisent l'éclosion de l'infectieux malarien, conditions toutes plus ou moins réunies dans ce pays-ci. Le paludisme règne au contraire à l'état endémique; il existe non seulement dans la plaine et dans la contrée avoisinante, mais encore dans la ville elle-même: les nombreuses observations recueillies à ce sujet, et se rapportant uniquement à des personnes sédentaires (lettrés, artisans), en sont une preuve certaine. Mais les individus les plus atteints sont naturellement ceux qui font des travaux qui les mettent directement en rapport avec le sol: les laboureurs, les briquetiers, les muletiers, etc. Ceux-ci sont tout particulièrement éprouvés; en dehors du surmenage, auquel ils sont soumis, ils vont fréquemment dans les Sip Song Pannas, au Laos, en Birmanie, régions plus chaudes et plus basses, où l'infectieux palustre sévit avec intensité. Aussi tous les Chinois redoutent-ils, et avec raison, de voyager dans ces contrées, sachant par expérience que la malaria (le *tchang-tchi*) fait toujours de nombreuses victimes. Très grande en effet est la mortalité des marchands, des *mafous*, des coolies, des soldats; au cours des derniers travaux de la Commission de délimitation de la frontière sino-birmane le mandarin militaire a perdu près de la moitié de ses hommes. Il ne s'agit pas là, bien entendu, d'une prédisposition particulière à la race, mais plutôt d'un ensemble de mauvaises conditions individuelles, créant un état de réceptivité morbide vis-à-vis de l'infection palustre. Les muletiers musulmans paient un tribut beaucoup moins lourd, et cela tout simplement parce qu'ils ont quelques habitudes hygiéniques, qu'ils se nourrissent mieux, et qu'ils ne fument pas l'opium. C'est là un fait confirmatif des plus intéressants et qui a pour ainsi dire la valeur d'une réelle expérimentation.

Voici sous quelles formes se sont produites les manifestations du paludisme chez les nombreux malades observés. La fièvre a revêtu tous les types connus, depuis l'intermittente simple jusqu'à l'intermittente à long terme, et à la fièvre rémittente ordinaire. Je n'ai pas observé d'accès pernicieux franc. Quant aux cas de cachexie palustre, ils sont très communs. Cette cachexie survient rapidement après quelques accès assez graves, ou bien elle semble faire son apparition d'une façon insidieuse, sans réaction fébrile accentuée. Dans la grande majorité des cas elle était caractérisée par un œdème précoce, œdème périmalléolaire, de la bouffissure du visage, et quelquefois de l'anasarque. À signaler quelques cas de cachexie sèche, avec un peu de parésie des membres inférieurs, dûe à l'hydrémie médullaire. Comme complications j'ai noté maintes fois de la splénite, de la congestion du foie, de la congestion pulmonaire, des troubles cardiaques (palpitations, souffles anémiques), des troubles nerveux divers (céphalée, vertiges, névralgies, lassitude intellectuelle), et un cas d'orchite. Plusieurs de ces cachectiques avaient en même temps de la diarrhée et de la dyssenterie. À signaler comme maladie intercurrente un cas de rémittente typhoïde dont voici l'observation sommaire: il s'agit d'un coolie

des Douanes, âgé de 25 ans, originaire du Hounan; dû 10 au 15 septembre 1898, il se plaint de céphalie, d'inappétence, d'embarras gastrique, de courbature généralisée, et d'un peu de fièvre, oscillant entre 37° et 38°.6. Le 15, élévation thermométrique très marquée, 39°.2 le matin, et 40°.1 le soir; état général peu satisfaisant avec langue sèche, saburrale, éructations, vomissements, haleine mauvaise, épigastralgie, douleur dans l'hypochondre droit et dans les deux fosses iliaques où la palpation révèle de nombreux gargouillements; peau chaude, teinte subictérique, selles bilieuses. Les jours suivants, sous l'influence de la quinine, donnée au moment des rémissions, la température se maintient entre 37°.5 et 39°.2, mais les phénomènes précédents persistent, et les selles prennent un caractère séro-sanguinolent. Le 20, au matin, la fièvre est tout à fait tombée, mais le malade présente un peu de délire, que j'attribue à la quinine, administrée en trop grande quantité la veille (ivresse quinique), et le soir nouvelle poussée fébrile; température, 39°.1. Ensuite les symptômes gastro-intestinaux s'amendent un peu, et l'état général paraît meilleur; la fièvre cependant garde toujours son caractère rémittent. En présence de cette inefficacité relative de la quinine (relative, parce que si ce médicament ne coupe pas toujours la fièvre d'une manière absolue, il agit tout de même à doses modérées, et de plus a une action névrosthénique et antifermentescible), mon intention est de soumettre le malade à la balnéation froide. Ce mode de traitement est refusé catégoriquement par l'entourage qui décide d'avoir recours au praticien chinois. C'est ainsi que ce pauvre malade est décédé le 8 octobre suivant. Je sais bien que la fièvre typhoïde est rare dans l'intérieur de la Chine; d'autre part je n'ignore point que lorsqu'une maladie infectieuse s'adjoint au paludisme, l'œil le plus exercé ne sait pas toujours distinguer ce qui appartient à l'un ou à l'autre élément. Néanmoins je considère ce cas comme relevant d'une rémittente typhoïde ou fièvre typho-malarienne.

Goître et Myxœdème.—Une autre maladie endémique est le goître, dont les cas sont très nombreux parmi les habitants de Ssemao et parmi les indigènes des montagnes environnantes. C'est d'ailleurs là une affection qui doit s'étendre à tout le Yunnan, vu la nature essentiellement montagneuse de cette province. On voit en effet pas mal de goîtreux sur la route entre Mongtze et ici; et, tout récemment (mars 1899), au cours d'un petit voyage dans les États Shans, j'ai pu me rendre compte que toutes les races aborigènes rencontrées payaient un tribut plus ou moins lourd à l'endémie. C'est dans les villages situés sur les hauteurs bordant le Mékong que celle-ci m'a paru présenter sa plus grande intensité.

On connaît les relations étroites de l'endémie goîtreuse et de *l'endémie crétinique;* aussi la ville de Ssemao offre-t-elle plusieurs spécimens de crétins typiques et qui n'ont rien à envier à ceux des Alpes, dont BAILLARGER nous a laissé une description des plus complètes.

J'ai eu l'occasion de voir un cas de myxœdème, et mon attention ayant été attirée sur ce fait, je recherche actuellement quelles peuvent être les formes frustes présentées ici par cette affection, me basant sur les effets de la médication thyroïdienne pour porter un diagnostic précis.

Les récentes recherches très intéressantes sur la physiologie et la pathologie du corps thyroïde permettent aujourd'hui d'identifier cliniquement et morphologiquement le crétinisme et le myxœdème, et de désigner sous ce dernier nom toutes les modalités pathologiques survenues à la glande thyroïde. Selon la nature de celles-ci (atrophie, absence, extirpation,

hypertrophie), l'on assiste à des manifestations cliniques différentes: le myxœdème proprement dit ou myxœdème spontané des adultes de GULL, ORD et CHARCOT; le myxœdème infantile ou idiotie myxœdémateuse; le myxœdème opératoire; et le myxœdème endémique ou crétinisme; vient enfin le goître. Ainsi, comme le dit le Dr. THIBIERGE, de Paris, "le myxœdème n'est pas une entité morbide, relevant d'une cause pathologique chimique ou microbienne, toujours identique, mais un syndrôme relevant de l'absence du fonctionnement du corps thyroïde. Ce n'est pas une maladie à proprement parler, c'est l'aboutissant de malformations, de maladies, de traumatismes."

Quant au goître endémique, tout porte à croire qu'il est fonction d'une *infection* se propageant de plusieurs manières, mais surtout par la voie hydrique.

Maladies épidémiques.—La grippe, la variole et la peste ont fait leur apparition pendant cette période annuelle, mais n'ont pas provoqué d'épidémie proprement dite; je n'ai observé que des cas isolés.

La grippe s'est montrée au début du mois de février et a persisté jusqu'à la fin mars; ses allures ont été bénignes, et ses manifestations surtout pulmonaires.

D'après les renseignements qui m'ont été communiqués, la variole n'aurait pas causé de ravages sérieux depuis très longtemps. Le seul cas observé se rapporte à une jeune femme qui, bien que vaccinée le 5 mars, a succombé à la fin du même mois aux complications (phlegmasie pleuro-pulmonaire) de cette grave maladie infectieuse. Très vraisemblablement cette femme était déjà sous le coup de l'infection variolique, au moment de la vaccination, puisque je n'ai observé aucun accident chez les autres sujets vaccinés dans la même séance. J'ai su en effet qu'elle s'était rendue dans une maison où un enfant avait présenté une éruption suspecte. Après maintes hésitations, dûes au préjugé et à l'ignorance, certains négociants sont venus eux-mêmes me demander de vouloir bien vacciner leurs enfants. Ce bon mouvement n'a été que partial, puisque je n'ai pu pratiquer que 16 vaccinations, sur lesquelles j'ai eu 13 succès.

Quant à la peste, au dire des habitants, elle n'a pas eu lieu depuis l'époque de la rébellion musulmane, c'est-à-dire depuis une trentaine d'années. Mais cela ne signifie point qu'aucun cas ne se soit produit. Les deux observations suivantes en sont une preuve manifeste, puisque sans la présence d'un médecin, ces deux cas auraient sans doute passé inaperçus. Le 16 septembre 1898, je recevais deux soldats faisant partie de l'escorte d'un petit mandarin militaire, venant de Tchen-pien-ting, et se rendant à Yunnan-sen. Ces deux soldats présentaient un tel état de fatigue qu'ils étaient transportés par des camarades, et qu'ils n'ont pu continuer leur route.

Facies très altéré, peau du corps très chaude, transpiration abondante, langue sèche et fuligineuse, céphalée violente, douleurs diverses (épigastralgie, rachialgie), bubon volumineux dans la région axillaire droite, et excessivement douloureux à la moindre pression; température, 39°.8. Tels sont les symptômes constatés chez le premier malade qui est mort le surlendemain matin.

Le deuxième sujet, originaire du Ssetchüen, présentait un plus grand anéantissement des forces physiques et intellectuelles, son facies était plus altéré, et les douleurs généralisées plus

vives—teint terreux, peau moite, transpiration abondante; température, 39°.5. J'ai pu suivre ce malade pendant toutes les phases de la maladie, et le soumettre à une médication symptomatique (toniques, stimulants, antithermiques et injections sous-cutanées de sérum artificiel), n'ayant point reçu de sérum anti-pesteux. À la date du 20 septembre je constatais l'apparition d'un bubon inguinal gauche avec température 39°.2; dès le lendemain la fièvre disparaissait, et le malade, quoique très abattu, jouissait d'une euphorie manifeste. Le 27, inflammation ganglionnaire de la région axillaire droite, sous forme d'un gros ganglion induré, roulant sous le doigt. Le 29, incision du bubon inguinal, et évacuation d'une grande quantité de pus. Lavages antiseptiques dans la poche et pansement humide pendant les jours suivants. Enfin, après une série d'incidents divers, ce soldat était tout à fait guéri à la date du 15 octobre.

Ces deux malades n'ont pu subir la contagion qu'à leur passage à Long-tang, chef-lieu Thaï, où la peste a fait cette année-ci plusieurs victimes.

Le seul cas intéressant, au point de vue *pathologie externe*, est le suivant: une plaie par instrument tranchant, faite par le blessé lui-même dans une tentative de suicide, plaie produite par un petit couperet, à direction légèrement oblique de haut en bas et de gauche à droite, occupant toute la région antérieure du cou. L'instrument, après avoir divisé les parties superficielles, s'était engagé au-dessous de l'os hyoïde, entre lui et le cartilage thyroïde; toutes les attaches musculaires et ligamenteurs, unissant le larynx à l'os de la langue, se trouvaient ainsi coupées.

Appelé 10 heures après l'accident, je trouvais le malade dans un sérieux état de dépression, par suite de l'abondante hémorrhagie qui s'était produite. En redressant la tête du blessé, l'écartement des lèvres de la plaie devenait énorme, et à travers l'ouverture, on apercevait l'épiglotte, dont un fragment avait été détaché, et la face postérieure du pharynx. Mon premier soin fut de sectionner ce fragment épiglottique qui aurait pu provoquer l'asphyxie, et de faire un lavage antiseptique des parties lésées. Les avis étant très partagés touchant la réunion par suture des plaies de cette nature, vu la fréquence des complications possibles: œdème de la glotte, suffusions sanguines sous-muqueuses, infection locale par les aliments, la salive, et par l'expectoration bronchique, j'étais plutôt embarrassé. Je me décidais néanmoins à faire une réunion immédiate, mais les points de sutures ne tardèrent pas à céder, par suite de l'infiltration œdémateuse des téguments. Force fut donc de recommander au blessé la position inclinée de la tête, afin de favoriser la cicatrisation naturelle. Au bout d'un mois de traitement, la plaie était en bonne voie de guérison, lorsque le malade a succombé à une pneumonie infectieuse.

Je n'ai eu l'occasion d'intervenir que dans un seul *accouchement:* il s'agissait d'un cas de dystocie des parties molles (insuffisance de la contraction utérine et insuffisance de l'effort par éventration considérable) chez une multipare qui était en travail depuis trois jours. À mon arrivée auprès de la parturiente, je constatais que la tête du fœtus avait été broyée par les *matrones* présentes. N'ayant aucun forceps à ma disposition, j'ai mis fin à cette situation en suppléant tout simplement à la brèche abdominale, c'est-à-dire en appliquant à plat les deux mains au niveau de l'éventration: l'effort en devint aussitôt plus efficace, et deux heures après l'accouchement était terminé.

STATISTIQUE MÉDICALE POUR TOUTE L'ANNÉE.

(Effectif: Européens, 5; personnel, 31; Asiatiques divers, —.)

MALADIES.	Européens.	Personnel, Consulat français et Douanes.	Asiatiques divers.
A.—PATHOLOGIE INTERNE.			
Fièvre palustre simple	2	12	50
„ „ rémittente	...	...	5
Anémie paludéenne	...	2	9
Cachexie „	...	1	7
Fièvre typho-malarienne	...	1 (décès)	...
Congestion du foie	1	...	4
Splénite	1	...	11
Ictère catarrhal	...	...	2
Stomatite	...	...	2
Embarras gastrique	2	2	3
Dyspepsies	1	3	23
Dilatation stomacale	1	...	4
Entérite	2	...	5
Entéro-colite muco-membraneuse.	...	1	1
Constipation chronique	...	1	6
Diarrhée dyssentérique	...	2	5
Pharyngo-laryngites	...	...	4
Bronchites	...	1	22
Broncho-pneumonie	...	2	2
Congestion pulmonaire	...	1	3
Pleurésie	...	...	2
Emphysème	...	1	1
Tuberculose pulmonaire	...	1	2
Palpitations cardiaques	...	...	4
Cardiopathies	...	1	4
Néphrites	1	...	3
Albuminurie	...	...	2
Névralgies	1	2	7
Épilepsie	...	...	1
Chorée de Sydenham	...	...	1
Impuissance sexuelle	...	...	2
Spermatorrhée	...	...	3
Rhumatisme	...	...	2
Myxœdème	...	...	3
Cachexie infantile	...	...	2
Athrepsie	...	...	5
Lumbago	...	...	3
Maladies épidémiques.			
Grippe	...	4	26
Variole	...	...	1 (décès)
Peste	...	...	2(1 décès)
B.—PATHOLOGIE EXTERNE.			
Plaies contuses	...	5	13
„ par instrument tranchant	...	...	6
„ „ coup de feu	...	...	3*
Fracture du fémur	...	...	1
Brûlures	...	...	2
Abcès simples	...	1	9
Phlegmons	...	...	4

MALADIES.	Européens.	Personnel, Consulat français et Douanes.	Asiatiques divers.
B.—PATHOLOGIE EXTERNE—*cont.*			
Ulcères divers	...	...	7
Adénites	...	...	4
Sarcome du cou	...	...	1
„ testiculaire	...	...	1
Lipome du cou	...	...	1
Ostéo-arthrite tuberculeuse	...	...	2
Abcès de la marge de l'anus	...	...	1
Hémorrhoïdes externes	...	...	2
Hernie inguino-scrotale	...	...	2
Rétention et incontinence urine	...	...	3
Uréthrorrhagie	...	...	1
Affections dentaires: carie, etc.	...	2	5
Goître	...	...	6
Bec de lièvre	...	...	1
C.—AFFECTIONS DES YEUX.			
Blépharo-conjonctivites	...	...	2
Dacryo-cystite	...	...	2
Conjonctivites simples	...	...	17
Kérato-conjonctivite granuleuse	...	...	15
Kératite phlycténulaire	...	...	5
„ à hypopyon	...	...	6
Cataracte	...	...	3
Choroïdo-rétinite (ophtalmie purulente).	...	...	1
Glaucome chronique	...	...	2
Ptérygion	...	...	2
Entropion	...	...	1
D.—AFFECTIONS CUTANÉES ET VÉNÉRIENNES.			
Gale	...	1	19
Herpès circiné	...	...	2
Ecthyma	...	...	3
Eczéma	...	...	1
Impétigo	...	...	5
Prurigo	...	...	3
Acné	...	...	1
Lèpre	...	...	2
Blennorrhagie	1	2	3
Chancres	...	1	2
Bubons suppurés	...	1	2
Syphilis secondaire	...	1	1
Orchite blennorrhagique	...	...	1
Cystites	...	...	2
E.—DIVERS.			
Accidents de la grossesse	...	...	1
Accouchement	...	...	1
Empoisonnement par l'opium	...	...	12
Intoxication acide phénique	1	...	...
Erythème médicamenteux	...	...	1
Otites	...	...	2

* Une de la main gauche, une de la cuisse droite, une de la cuisse gauche.

IV.—HYGIÈNE: SALUBRITÉ.

Au point de vue hygiénique, Ssemao ne diffère pas des autres cités chinoises, c'est-à-dire qu'elle laisse beaucoup à désirer. Les habitants ne connaîssent pas le tout à l'égout, mais ils pratiquent largement le tout à la rue. Comme il n'y a ni latrines publiques, ni latrines privées, c'est évidemment la rue qui en tient lieu, et ces matières, ainsi mélangées à tous les autres détritus, donnent lieu à des fermentations malsaines. Certaines petites places, certains carrefours, surtout aux abords du marché ou des rues les plus mouvementées, sont totalement encombrés par toutes sortes d'immondices. Il existe bien un système d'égouts, mais, comme ils ne sont lavés que par les pluies, ils ne présentent de l'utilité que lorsque celles-ci sont très abondantes. En dehors de cette période, vu leur mode de construction très défectueux, ils constituent plutôt des points toujours infectés par toutes les ordures qui y sont jetées et facilement retenues.

Quelles mesures à opposer à cet état de choses? Aucune; il serait même puéril de donner des indications à ce sujet, parce que l'indifférence des autorités chinoises et l'incurie de la population sont telles que les animaux seuls (porcs, corbeaux et chiens) seront toujours chargés du service de la voirie.

Il importe donc que les Européens s'installent en dehors de la ville, afin de se trouver dans les meilleures conditions hygiéniques possibles. Les installations actuelles laissent on ne peut plus à désirer; le Consulat français se trouve mieux partagé que l'Administration des Douanes: éloigné de tout groupe important d'habitations, son emplacement est satisfaisant, mais les bâtiments manquent tout à fait de confortable. Le même reproche doit être adressé à ceux des Douanes qui présentent, en outre le gros inconvénient d'être fort mal situés, englobés qu'ils sont entre des maisons chinoises, et trop rapprochés de la place du marché.

Je n'insisterai pas à ce sujet, puisque des terrains ont été achetés tout récemment pour l'érection de constructions neuves; en qualité de médecin, j'émets le vœu que celles-ci soient exécutées le plus tôt possible, et je me permets de donner à leur sujet les indications suivantes: le terrain choisi prête quelque peu le flanc à la critique, n'étant pas assez élevé au-dessus des terres basses environnantes; il devra donc être drainé avec le plus grand soin, et tous les Européens devront habiter la partie culminante. Quel que soit le mode de constructions adoptées (les bâtiments actuels des Douanes de Mongtze pourraient heureusement être pris comme modèles), il importera que les habitations soient elles-mêmes très élevées au-dessus du sol à cause de la grande humidité tellurique et de la nature du sous-sol (argileux). Quant à l'orientation, basée en général sur la meilleure ventilation possible, elle doit être ici est–ouest. D'autre part, pour l'assainissement du sol, on retirerait, je crois, de sérieux avantages de planter dès le début les essences suivantes: l'eucalyptus, le pin, le bambou, le ricin et la menthe. Tout le monde connaît les proprietés asséchantes et le croît rapide de ces plantations, sans compter que la menthe, l'eucalyptus et le ricin faciliteront l'éloignement et la destruction des moustiques qui sont assez nombreux et fort désagréables pendant la plus grande partie de l'année.

D'aucuns ont proclamé que Ssemao était une ville salubre, parce que la peste n'y existait point. Quelle opinion erronée! Oui, cette grave maladie n'existe pas à l'état épidémique,

mais des cas isolés doivent se produire plus souvent qu'on ne croit. D'ailleurs, n'y a-t-il pas à proximité d'ici (trois jours de marche) le chef-lieu "thaï" de Long-tang qui est un foyer infectieux des plus sérieux?

La question des eaux doit être aussi prise en sérieuse considération. Bien qu'il ne m'ait pas été donné d'en faire l'analyse, je ne crois pas qu'il soit téméraire de déclarer qu'elles sont toutes plus ou moins polluées. On se sert en général soit de l'eau de puits, soit de l'eau de sources: la première est assurément souillée par un grand nombre d'infiltrations, les puits étant creusés au voisinage des maisons (cas pour la Douane). Quant à l'eau des différentes sources, situées dans les faubourgs, elle est sans contredit la moins suspecte, ce qui ne veut point dire que ce soit de l'eau potable: d'une limpidité très relative, surtout pendant la saison des pluies, elle possède une légère odeur désagréable, un goût détestable; présente toujours un dépôt plus ou moins appréciable; n'est pas exempte de matières organiques, et est dure, parce qu'elle contient très vraisemblablement une grande proportion de sels minéraux—tels sont les caractères de cette eau. Inutile d'ajouter qu'un filtre sérieux est donc tout à fait indispensable, filtre dont les bougies seront lavées avec soin tous les mois et passées à l'acide chlorhydrique ou au permanganate de potasse.

Ressources alimentaires.—Je crois utile, en terminant, de donner quelques indications brèves relatives aux ressources alimentaires offerts par le pays; ces indications pourront servir aux Européens appelés en service en cette ville.

On trouve avec beaucoup de facilité des poulets, des chapons, des œufs, des pigeons et des canards. La viande de porc est assez bonne; celle de mouton est exceptionnelle; on lui substitue celle de chèvre (mouton noir des Chinois). Quant à la viande de bœuf, elle ne constitue pas une ressource aussi précieuse que pourraient le désirer les Européens: la vente n'en est point régulière, et de plus elle est de qualité bien inférieure.

Le lait, qui rendrait de grands services dans un pays aussi éloigné que celui-ci, fait pour ainsi dire défaut; le seul moyen de s'en procurer est d'acheter une vache laitière dans les villages voisins (prix de 8 à 12 piastres).

Les habitants pêchent bien dans la petite rivière locale une espèce de poisson, mais il importe de le proscrire de l'alimentation, parce que c'est un véritable poisson de vase, très petit, et plein d'arêtes.

Il y a des légumes toute l'année; ce sont des salades, des choux, des fèves, des navets, des haricots, des pois, des carottes, des tomates, des aubergines, des épinards, du céleri, de l'igname, des patates, des radis, des oignons et des concombres. Tous ces légumes laissent beaucoup à désirer à cause des procédés de cultures routiniers employés par les Chinois. Il est donc de l'intérêt des Européens, destinés à faire un séjour assez prolongé ici, d'apporter avec eux des graînes des principales plantes potagères d'importation. Avec quelques soins, je suis persuadé que l'on aurait bien vite de magnifiques jardins potagers.

La pomme de terre n'est point cultivée à Ssemao, mais on la trouve assez souvent sur la marché; elle vient des autres parties du Yunnan.

Les fruits sont en assez grand nombre, et suivant la saison, l'on peut acheter: des pêches, des poires, des prunes, des grenades, des goyaves, des bananes, des ananas, des mangues, des oranges, des citrons, des coings, des lêtchys, des mûres, du raisin (très rare). Tous ces fruits n'arrivent jamais à une maturité parfaite, et leur saveur est fort désagréable; la seule façon de les utiliser est de transformer la plupart d'entre eux en compotes ou en confitures.

Deux autres articles importants et qui ne font jamais défaut sont: la farine et le sucre; celui-ci est grossier (cassonade); la farine manque de finesse, il est vrai, mais entre les mains d'un cuisinier exercé, elle peut fournir un pain convenable.

La région est loin d'être très giboyeuse; il est possible néanmoins de se procurer assez souvent: des tourterelles, des perdrix, des coqs sauvages, des faisans argentés, des lièvres, des bécassines et du cerf.

Comme on le voit, ces ressources alimentaires, quoique non abondantes et peu variées, présentent cependant quelque importance, puisqu'elles peuvent vous dispenser la plupart du temps de l'usage des conserves.

614.095/

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 31ST MARCH 1900.

59th Issue.

PUBLISHED BY ORDER OF

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1900.

[*Price* $1.]

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INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.— * * * * *

I am, etc.,

(Signed) ROBERT HART,

Inspector General.

To

THE COMMISSIONERS OF CUSTOMS.

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The Contributors to this Volume are:—

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W. H. PARK, M.D.	Soochow.
HERBERT J. HICKIN, M.B.	Ningpo.
H. M. MCCANDLISS, M.D.	Hoihow and Kiungchow.
A. SHARP DEANE, F.R.C.S.	Pakhoi.

DR. OSMAN F. HALL'S REPORT ON THE HEALTH OF CHUNGKING

For the Half-year ended 31st October 1899.

DURING the summer the general climatic conditions were not unusually severe. There has been one birth and no deaths among the foreign community. One case of acute pulmonary tuberculosis made a good recovery, with no present probability of a relapse. During September there were five cases of dysentery, but only one of a severe type. One case of pneumonia, that of a child, made a good recovery.

It is impossible for me to give any accurate information concerning the general health of the native population. I do not know of any severe epidemics during the season. During two weeks in August there was an unusually large death rate among children, owing to the extreme heat.

I have seen three cases of elephantiasis but no cases of leprosy during the four months I have been in Chungking.

Probably the most fatal and obstinate to treatment of all diseases is tuberculosis. In its varied forms it affects more than half the people and is the cause of more deaths than any other disease. The glandular form is the most severe, and is so rapid in progress and diffused in character that operation yields discouraging results. Pulmonary tuberculosis yields readily to treatment, and cod-liver oil is becoming well known and widely used. Tuberculosis of the bones is usually of the smaller joints.

I have seen three cases of carcinoma of the lip, the largest of which is shown in Fig. 1. The patient is 52 years old, and has smoked opium for 15 years. He says that 14 months ago he noticed a small wart on his lip, just within the nasal orifice; this has given some pain and grown steadily until it is now about 2 by 3 inches, with scabby, dirty, bleeding surface and raised indurated irregular border. I found maggots at work in the centre of the wound. As the man was an opium-smoker, he was induced to first break off his opium, and operation has not yet taken place.

Opium-smoking is very common, and many women as well as men are enslaved to the habit. Its effects are bad beyond description, yet vary greatly in different cases. The woman standing in the centre of the group (Fig. 2) is 77 years old, and has used opium daily for 47 years; she began for pleasure, and has never been sick in any way; she shows no symptoms of debility from opium poison. She has broken off the habit and remains cured. The other woman of the group began using opium because she suffered from pulmonary tuberculosis, and in a few years showed marked signs of neurosis. The girl, 13 years old, is a slave suffering from rickets, and has greatly improved by treatment. This picture illustrates the five great curses of the women of China—slavery, opium, tuberculosis, rickets, and bound feet.

Much has been said to me about the inability of the Chinese to heal from surgical wounds. I wish to cite three cases in which under complete asepsis most rapid recovery occurred:—

1.—A boy, 16 years old, upon whom I operated for oblique inguinal hernia. The wound was closed with no drain in the scrotum and a small gauze drain in the lower angle of the incision. There was no pus, and the dressing was not changed until the 8th day. On the 9th day the patient was on his feet, and on the 13th day was dismissed without a bandage or belt. Several months have passed, and he is perfectly well and strong.

2.—A man, 31 years old, who had cut his little finger off in the first third of the first phalanx. The bone was protruding from the dirty wound. The patient was a slave, poorly nourished and very anæmic, and appeared to have little power of recovery; yet in eight days from the time I removed the remainder of the phalanx and made a flap, the wound was entirely well, and on the 9th day the patient was dismissed without a bandage.

3.—Woman (*see* Fig. 3), 45 years old, with a degenerated lipomatous tumour hanging down from the shoulder to the waist-line and 16 inches in diameter, with a pedicle 3½ inches in diameter when pressed together. The tumour had been growing for 27 years, and in its degenerated state yielded a most offensive and penetrating odour. It was removed, and the wound closed without a drain. Recovery took place in 12 days.

The last case calling for mention in this Report is one which illustrates the good results obtained by the use of large doses of iodide of potassium in severe tertiary syphilis. The patient was a Chinese man, about 26 years old, with two gummata and an ulcer on the right shin, a papular squamous eruption under the left nipple, a gumma in the left eyelid about the size of an English walnut, an ulcer on the crown of the head, another in the occipital region, a third arching over the right ear, and a fourth that had made a hole through the outer lamella of the centre of the frontal bone about the size of a 20-cent silver piece, suppurating in the cancellous bone tissue, and, further, the cubital gland of the right elbow-joint was very large and soft. I began by giving 60 grains of iodide of potassium a day, divided into three doses after meals, and increased to 180 grains a day. The 3rd day improvement was noticed, and the 15th day he was well, except the healing of the skin over the frontal bone. Disturbance of the stomach was avoided by giving the medicine in a large quantity of water.

Fig. 1.

Fig. 2.

Fig. 3.

DR. J. A. LYNCH'S REPORT ON THE HEALTH OF CHINKIANG

For the Year ended 31st March 1900.

DURING the past twelvemonth the health of the Chinkiang community has been good. The summer of 1899, like that of the previous year, was marked by a complete absence of cholera and kindred seasonal epidemics. Among the foreign population no complaints of a grave character came under treatment. Except for a few trying days in the end of June, there were not even the ordinary discomforts of the hot weather to grumble over, a scarcely interrupted series of typhoons keeping the temperature within very moderate limits. As might naturally be expected after a summer of unusual coolness, the winter set in early, with hard frosts in November, and lasted almost to the end of March. At no time, however, was the cold inordinately severe.

Malarial fevers of the usual types appeared in the early autumn; and February and March brought a small outbreak of influenza, presenting no feature of special note beyond its mildness.

Two deaths occurred during the year. In November a delicate, slightly rachitic child of 2 years was seized with pneumonia of a most insidious character, and on the 4th day died suddenly of cardiac failure. The other death took place in February. A visitor to the port, a man of 38, apparently in vigorous health, was found unconscious in bed when his servant went to call him at the usual time in the morning. When seen by me a short while after, he could be partially roused for a few seconds at a time. The stomach was washed out as a precautionary measure, in view of possible narcotic poisoning, although a careful scrutiny of patient and room revealed nothing that pointed decisively in that direction. The temperature was a little raised; the urine albuminous; no accentuation of the second sound of the heart; no change in the pupils beyond sluggish reaction to light; and no unilateral symptoms whatever. A few hours later rigidity of both legs, with strongly-marked ankle clonus, set in, suggesting the condition which was found at the autopsy—viz., ventricular hæmorrhage. A temporary subsidence of the symptoms, with return of incomplete consciousness for several hours, was succeeded by renewed stupor, deepening rapidly into coma; death ensuing after 40 hours of illness.

The sanitary state of the Settlement continues satisfactory, the water and milk supplies are good, and the drainage leaves little to be desired. Should we have the misfortune at any time to receive a visit from the plague, it is most unlikely to effect a lodgment anywhere within the Concession limits. The danger will come from the densely inhabited and very dirty native suburb, and the most likely spots will be those close upon our boundaries—namely, the "West Gate Street" and the "Maloo." The condition of this latter thoroughfare, our only way of egress to the country, is a matter of specially serious import. The Maloo has been constructed and kept in repair for over a score of years by the contributions of foreign residents. In the

course of time there has grown up on each side of it a crowd of houses and hovels, many of a most objectionable character; and the whole locality becomes more insanitary and offensive year by year. It has been suggested that an effort should be made to secure some degree of municipal supervision over this region. The power to exercise police and sanitary control is worth a good deal of wrangling for. It may be fairly argued that foreign residents have earned the right to exercise it; that it is a necessity for our protection; and that it would be an unquestionable boon to the Chinese occupants.

To the courtesy of Mr. J. J. C. LORENTZEN I owe the appended meteorological abstract.

METEOROLOGICAL TABLE, March 1899 to March 1900.

MONTH.	THERMOMETER.			BAROMETER.		RAINFALL.
	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	
1899.	°F.	°F.	°F.	*Inches.*	*Inches.*	*Inches.*
March	72	35	49.9	30.55	29.84	2.88
April	78	38	56.7	30.48	29.80	5.08
May	92	49	68.6	30.10	29.78	1.76
June	96	66	76.8	29.99	29.55	7.31
July	100	71	83.6	29.87	29.51	2.07
August	95	63	78.5	30.01	29.52	13.23
September	83	59	71.0	30.27	29.90	2.30
October	76	44	61.5	30.44	30.00	0.09
November	65	28	49.6	30.59	30.03	3.03
December	68	30	44.8	30.54	29.97	2.77
1900.						
January	46	21	31.0	30.71	30.12	2.35
February	65	25	39.2	30.62	30.08	0.56
March	73	30	47.0	30.55	29.75	1.92

Dr. W. H. PARK'S REPORT ON THE HEALTH OF SOOCHOW

For the Three Years ended 31st March 1900.

No epidemics have occurred during the time under review, and the general health of the community has been as good as could be expected.

Our European population averages about 60, and during the past two years the following diseases among them have been noted:—

Intermittent malarial fever	21	Pharyngitis	2
Remittent „ „	3	Dysentery	2
Bronchitis	7	Dengue	2
Constipation	6	Abscess of liver (treated in Shanghai)	1
Diarrhœa	3	Congestion of liver	1
Intestinal indigestion	2	Rheumatic fever	1
Neuralgia	2	Conjunctivitis	1
Pleurodynia	2	Membranous croup (fatal)	1

Several people have had more than a dozen attacks of intermittent fever; so the total 21 merely represents the number of people attacked, not the number of separate exacerbations.

Some of the principal diseases seen among 25,000 consecutive native patients visiting the dispensary of the Soochow Hospital were:—

Malaria.

Intermittent fever, quartan type, afternoon exacerbation	7,735
„ „ „ „ forenoon „	170
„ „ irregular type	544
Remittent fever	239
	8,688

Eye Diseases.

Catarrhal conjunctivitis	602	Pterygium	338
Gonorrhœal conjunctivitis	21	Entropium	260
Granular conjunctivitis (trachoma)	516	Trichiasis	192
Phlyctenular conjunctivitis	99	Ulcer of the cornea	162
Blepharitis marginalis	403	Cataract	57
Keratitis	142	Iritis	47
Interstitial keratitis	26	Glaucoma	41
Phlyctenular keratitis	181		
Opacity of the cornea	391		3,820
Pannus (mostly from trachoma)	342		

General.

Scabies	1,222	Ascites	162
Eczema	938	Dysentery	155
Dyspepsia	723	Fistula in ano	136
Rheumatism	689	Leprosy	108
Bronchitis	608	Tinea circinata	94
Ulcers (mostly on the leg)	504	Elephantiasis	86
Asthma	392	Epilepsy	70
Phthisis	248	Beri-beri	28
Enlarged spleen	234	Abscess of the liver	5
Favus	171		

The people in this part of China seem to have no fear of contagion from leprosy, and lepers are never segregated. I inquire as to origin in nearly every case, and generally get the reply that the patient has no idea of how he contracted the disease, and that there are no other cases in the family or even in the immediate neighbourhood. Last week, however, one patient said he had caught the disease from one of his neighbours, and there were five other cases in his village; it had existed there for a great many years. The eyebrows dropped out about the third year, and death occurred in all cases a few years later.

The following is a list of diseases seen in private practice among the well-to-do classes of Soochow (350 consecutive cases, suicides not included):—

Remittent fever	29	Syphilis	4
Gastralgia	25	Retention of urine	4
Phthisis	20	Croup	4
Apoplexy	15	Necrosis of bone	4
Dyspepsia	14	Infantile convulsions	4
Constipation	10	Rheumatic fever	3
Diarrhœa	10	Pott's disease	3
Typhoid fever	9	Abortion	3
Anæmia	7	Eczema	3
Puerperal eclampsia	7	Sciatica	3
Dysentery	6	Intestinal worms	3
Mitral insufficiency	5	Insomnia	3
Old age	5	Nephritis	3
Bronchitis	5	Carbuncle	3
Hæmoptysis	5	Transverse myelitis	3
Ascites	5	Opium diarrhœa	3
Insanity	5	Small-pox from inoculation	3
Pneumonia	4	Odontalgia	2
Chronic rheumatism	4	Hæmatemesis	2
Hystero-epilepsy	4	Tic douloureux	2
Difficult labour	4	Measles	2

Trachoma	2	Cancer of the kidney	1
Glaucoma	2	„ „ rectum	1
Cellulitis	2	"Soul stolen by an evil spirit"	1
Indigestion	2	Syphilitic laryngitis	1
Deep abscess	2	Tubercular „	1
Stomatitis	2	Dementia	1
Epilepsy	2	Tonsillitis	1
Hysteria	2	Synovitis knee-joint	1
Strangulated hernia	2	Fistula in ano	1
Aortic insufficiency	2	Cerebro-spinal meningitis	1
Gastritis	2	Spermatorrhœa	1
Vomiting of pregnancy	2	Dermatitis	1
Asthma	2	Anthrax	1
Puerperal fever	2	Adenitis	1
Burns	2	Gangrene of prepuce	1
Fracture of the femur	2	Ague	1
Hip-joint disease	2	Vertigo	1
Heart failure (sudden death)	1	Cephalalgia	1
Keratitis	1	Catarrhal conjunctivitis	1
Blepharitis marginalis	1	Phlyctenular conjunctivitis	1
Alveolar abscess	1	Abscess of the breast (mastitis)	1
Angina pectoris	1	Gonorrhœa	1
Peri-urethral abscess	1	Herpes zoster	1
Chronic malarial poison	1	Scurvy	1
Congestion of the brain	1	Colic	1
Chronic hiccough	1	Chorea	1
Paralysis of the seventh nerve	1	Malarial hæmaturia	1
Influenza	1	Cataract	1
Obstruction of the bowel	1	Cold abscess	1
Gonorrhœal epididymitis	1	Deformed thumb	1
Stricture of the œsophagus	1	Impacted water-melon seed hulls	1
Dengue	1	Accidental gunshot wound	1
Cancer of the breast	2	Diphtheria	5

Malarial fever (remittent form) heads the list, but I have been called to only one case of the intermittent form. It must not be gathered from this, however, that ague is rare in the city.

The fashionable disease of Soochow is gastralgia. Men occasionally have it, but it is mostly confined to ladies of the upper classes, due probably to the indolent, aimless lives most of them have to lead. The inciting cause is often a fit of anger, but in many instances the cause is unknown. Some have only one attack a year; others, one every festival occasion—New Year, fifth of fifth moon, middle of eighth moon, etc.; and still others suffer nearly every month.

The attacks last from three to five days. The pains usually, though not always, begin in the stomach, but they soon radiate to the back and limbs, and during the worst of the attack there is no sleep or rest day or night. When called to a case I can generally tell when I am nearing the patient's apartments by hearing the cries and groans that are proceeding therefrom. Every servant on the place, and wealthy families have them by the dozen, can give a full history of the attack, and of previous ones too for that matter; and well do they have reason to be posted, for there is not a moment's peace for them until the worst is over. Some are sent for the doctors, some go for the medicines, some prepare the medicines, some do this, and some do that, and all take turns in pounding, pinching, and rubbing the patient, and in being scolded,—for the mistress is irritable, and if they try to let up on this part of the performance she will give them a piece of her mind. The servants of relatives and friends are all busy, too, for everyone seems to know when an attack is on, and all must send messages of condolence or recommend some efficacious remedy or some famous doctor. I have sometimes thought I could detect symptoms of pride in the servants, that they were serving a mistress who could get up such a disease and cause such a stir in her little world. This disease is largely responsible for opium-smoking among women, and here, as elsewhere, it does more harm than good. If they would be content with smoking only when an attack supervenes it would be one of the finest remedies known; but nine-tenths of them, once they begin, fall victims to the habit, and their last state is worse than the first. By weakening and constipating its victims opium renders them more liable to attacks, and by inuring them to its action it takes away their only means of relief.

Cerebral apoplexy is also very common in Soochow. I was formerly acquainted with a rice merchant who often said he expected to die suddenly some day soon, for his father and four older brothers had all died of apoplexy before reaching the age of 50. I tried to reassure him, but in his 42nd year I was suddenly called to his bedside one night to find him dying of cerebral apoplexy. In another family three brothers, one of them a man of note, have had cerebral apoplexy during the last five years. Two of them died, and the third has had a stroke that has left him as helpless as a child. Their ages ran from 58 to 65.

Our fancied security from diphtheria proves every year to be more and more a myth. There have been no special epidemics, but a certain number of cases occur here every year, just as they do in the large cities of Europe and America. Not long ago I secured a supply of diphtheria antitoxin, and in February of this year used it on a most unpromising case of laryngeal diphtheria with most gratifying results. The father and mother allowed me to inject it, because they counted the child as dead and thought she could not be made any worse. Great, therefore, was their surprise and joy when recovery followed. The father presented me with a valuable jadestone medal, the mother kowtowed, and the grandfather donated a desirable piece of land to our Soochow Anglo-Chinese School.

In this land of opium-smoking we are often called upon to treat constipation and impacted fæces. For the latter condition I used, not long ago, at the suggestion of my colleague, Dr. J. D. Trawick, an injection of peroxide of hydrogen, and the effect was all that could be desired.

Dr. HERBERT J. HICKIN'S REPORT ON THE HEALTH OF NINGPO

For the Half-year ended 31st March 1900.

The health of the port has been fair. One birth and two deaths were recorded. The following cases are of interest:—

Erysipelas followed by mild Mania.

Patient was a Chinese girl, aged 16, a scholar in a mission school. Her intellect was never very bright—not up to the average standard of the school. The cold weather in the beginning of January gave the girl chilblains on the ears; these ulcerated and formed the starting point of an erysipelas which commenced on the right side of the neck, just below the lobe of the ear. Thence it spread over the whole of the right side of the face, avoiding the scalp; it then crept across the forehead and extended down the left side of the face and neck to the clavicle, where it stopped. There was considerable prostration from the commencement, which increased till the 9th day of the illness, when a climax was reached. The patient now lay in a typhoid state, but by free stimulation and frequent nourishment she rallied, and the temperature began to decline day by day and assumed the normal on the 14th day of the illness. The highest temperature I was able to record was only 103°.6 F., but it seems probable that it was much higher than this, as the mother told me that for three or four nights her daughter's skin was pungently hot and far more hot to the touch than at any time during my daily visits. No abscesses formed, though the forehead was very œdematous and there was evident effusion in the subcutaneous tissue.

The chief interest of the case lay in the fact that after the girl began to rally from her prostration, on the 9th day, she became mildly maniacal and began to chatter incessantly by day and night, but more so during the night than by day. She was restless and tried to get up out of bed. She was sleepless during the night, but would doze a little in the early morning. She had delusions of time and place, but was at no time violent or obscene. She was semi-conscious, and could with difficulty be made to put out her tongue. She was conscious enough, however, to object strongly to the salt taste of the bromide she was given.

Under bromides and trional, which succeeded very well in inducing sleep, this condition slowly passed away, and in a week she was fairly rational, though her brain remained in a more or less feeble state until convalescence was well established some fortnight later. Erysipelas of the face is, in my experience, a rare affection in the Chinese, and when it occurs is attended with much delirium. Some native doctors were called in to the above case and recognised its nature, but gave a gloomy prognosis; and well they might, for their principle is to starve disease, and had this girl been put on low diet I am sure the result would have been fatal.

Abscess of the Liver.

In this case, which was in a European, there was a previous history of alcoholism, and of a severe attack of dysentery in the autumn of 1899, followed by a relapse just as the patient was about to leave hospital.

The symptoms were violent rigors, followed by fever and profuse sweats. The morning temperatures were subnormal (96°.4 F.). There was continual vomiting, with anorexia; absence of local pain and jaundice; no enlargement of spleen or liver; regular bowels, with stools normal in colour and consistence; depression of spirits.

The diagnosis rested mainly on his habits, previous dysentery, sickness, rigors, sweats, and on the absence of malarial periodicity and of organic disease of any other organ.

Feeling pretty confident the mischief was in his liver, patient was sent to the General Hospital at Shanghai, where, I understand, abscesses were found and opened; but the final result was fatal. The rigors came on for the most part, while under my observation, between noon and 5 P.M., but they sometimes occurred twice daily, and in the earlier part of the illness occurred during the night, when the patient was lying warm in bed.

Malarial Colic.

It is well known that malaria will attack almost any organ, but the following case is of interest, firstly, on account of its long duration, and, secondly, because a complete change of air and climate had no influence on the course of the disease. The disease commenced about the middle of September 1899, just when the nights began to get cooler and the mosquitoes ceased to bite, and ended on 31st January 1900.

Symptoms.

(1.) *Lumbar pain*, aching in character, varying in intensity but almost constantly present, the severity of the pain bearing a direct proportion to the abdominal pain. The pain was extremely wearisome.

(2.) *Abdominal pain* situate in the left iliac fossa, and sometimes in the right iliac fossa also, and occasionally extending all over the abdomen. In character it was aching, dragging, or griping, occurring in greatest intensity about three hours after food, and often distinctly relieved by the taking of food.

(3.) *Exaggerated peristalsis* was a symptom frequently present, and gave rise to a feeling as of a distended coil of intestine moving across the abdomen above the umbilicus.

(4.) *Aching pains in one or both testicles* were often felt when the abdominal pains were severe.

(5.) *Articular pains* occurred on the inner sides of the knee-joints, more usually in the left knee, but sometimes in both knees. These pains were only felt when the abdominal and lumbar pains were most severe. They were often replaced by a sensation of muscular weakness

and trembling. The area of these pains corresponded to the area of distribution of the anterior cutaneous nerves at the knee-joint, but they may have been caused by pressure of a distended gut on the obturator nerve at the sigmoid flexure.

(6.) *Excessive sensibility to slight variations of temperature*—manifested by a tendency to sore-throat and nasal catarrh on slight provocation, and by slight chilliness after exposure to a breeze. Any slight chill of this character was invariably followed by exacerbation of the abdominal pains or the lumbar aches.

(7.) *Irritability of the bladder*—a marked symptom. Though the quantity of urine was not in very great excess, yet the "calls" were exceptionally frequent, and were attended by unusual urgency.

(8.) *Peevishness and irritability of temper*, and sometimes depression of spirits. Patient felt great loss of energy, liked to recline in a chair with his legs up; was disinclined to exercise the intellectual faculties, either in reading or in conversation.

(9.) *Appetite* was capricious. Sometimes there was a great craving for food, at other times appetite was poor; but in general a fair amount of food could be taken, though there was little enjoyment of it.

(10.) *Digestion* normal as a rule, but now and then nausea and distaste for food, with a feeling of weight in the epigastrium, difficulty of digestion, together with tenderness over the abdomen, as if it had been beaten all over, would supervene. At such times there would be intense depression of spirits. These dyspeptic attacks would occur once in every week or 10 days and last for a day or two.

(11.) *Flatulence* was often present to a slight extent, but was never a prominent feature.

Physical Examination.

This revealed no evidence of disease in the other organs. The abdomen was flaccid, the abdominal parietes devoid of fat. Pain on deep pressure could generally be elicited over the sigmoid flexure and sometimes over the cæcum, and there was the feeling as of a distended hard portion of the bowel in these localities. There was no undue tympanicity on percussion. The bowels were regularly moved, the motions soft but formed, natural in colour and quantity; there was no evidence at any time of either blood or mucus or of unchanged food. Occasionally after a slight chill a very mild diarrhœa would occur, in which the motions would be only just unformed, and the number of stools would not exceed three or four in 24 hours. These mild symptoms would subside in a day or two.

Urine.—Specific gravity 1,001 on the average, rarely as high as 1,010; but this low specific gravity had been present almost all through the summer. Reaction was neutral. There was no trace of albumen and no excess of mucus. A cloud of phosphates formed on heating, and were dissolved on the addition of a drop of acetic acid. Decomposition occurred with great rapidity.

Tongue was usually clean and moist, but would now and then get coated with a white fur for a few days.

Treatment.

Strict dieting was tried, but relinquished in favour of an ordinary simple diet of soups, meat, vegetables, milk puddings. Fruits were avoided, oranges in particular seemed to exaggerate the pain. Intestinal antiseptics—salicylate of bismuth and creosote—appeared to alleviate for a time, and latterly a tonic of dilute hydrochloric acid and liquor strychniæ seemed to palliate the symptoms slightly. A change of air to Japan, with hot baths twice daily, was tried for a month and succeeded in improving the general health, but had no effect on the course of the disease. Walking exercise was also tried and seemed to do neither harm nor good, but it was disagreeable, as the jar of the feet on the ground caused marked pain in the iliac regions.

The course of the above symptoms continued uninterruptedly till 28th January, when the patient felt chilly and ill all day with the more acute dyspeptic symptoms. The next day there was marked improvement; but the day following, the symptoms returned, and in the afternoon the patient felt so chilly as to suggest the probability of fever, and the temperature being taken registered 101° F. This distinct periodicity, which had hitherto been sought for in vain, gave the clue to the nature of the malady, and a few doses of quinine speedily banished every trace of pain, and made existence, which at times had been downright burdensome, once more a pleasure. 10-grain doses of quinine once daily were kept up for about six weeks after the disease was cured, and since then there has not been the slightest recurrence of the symptoms.

In the autumn of the previous year (1898) exactly the same train of symptoms troubled the patient for about two months, but were ultimately brought to a climax by the onset of mild dysenteric symptoms, which speedily yielded to complete rest in bed, careful diet, salicylate of bismuth, and large enemata.

DR. H. M. McCANDLISS' REPORT ON THE HEALTH OF HOIHOW AND KIUNGCHOW

For the Half-year ended 31st March 1900.

THE general health of foreigners and natives was good from the end of September to 20th December. Then the small-pox epidemic commenced in Kiungchow, and soon extended to Hoihow. It lasted until about the end of February, and then died down in both places. Although it was a general epidemic and excited the people to the point of being vaccinated, the mortality was much less than in former epidemics. The three cases which I treated all got well with little pitting, although one case was confluent.

Just as the small-pox subsided the plague took its place and worked with great intensity. During the first 23 days of March there were 256 coffins sold, but in the next 20 days about three times that number. About 30 to 40 per cent. were uncoffined, and some few were so fortunate as to have coffins on hand. Up to date the Chinese grave-diggers estimate that they have carried out just about 2,000 bodies. If we place the population of Hoihow and environs at 30,000, the above figures would give a plague mortality approximating 7 per cent. The people were so roused that they deserted their houses, and went to the river banks to live under temporary shelter, while many removed to the villages and village temples. Large quantities of gold and silver paper were burned, together with a great deal of incense. Bands of men with muskets went to the different districts and temples and fired volleys at the retreating devils, driving them with tom-toms out toward the deep water. This all leads up to the observation that in about nine cases out of ten an evil spirit to a Chinese is simply another name for an evil influence, which foreigners with their microscopes discover to be pathogenic bacteria. A foreigner goes to a new place and tries to rent a house, and after much vain effort succeeds in renting a haunted house, which simply means that the former occupants of the house have died in some epidemic or from some contagious or infectious disease, and if other Chinese live afterward in this house the same devils or bacteria will attack them. But the foreigner can live in the haunted house, for the reason that he opens up windows, cleans out, and disinfects. (In a house I occupied for several years a Taotai and nearly 30 of his retinue had died of what answered to the description of enteric fever.) Chinese try to open a mine or excavate for a fort, and the earth devils resident in the place attack the disturbers of their peace, which means that the germs of typhoid, malarial, or of excavation fever, or of dysentery (all of which I have treated in the soldiers who worked at the great fort near here) are liberated or inhaled, drank or inoculated into the workmen. We have here in the island both the fungus-

foot (mycetoma) and a fungous ulceration of the leg occurring in carriers and others who have to penetrate the interior Li country, and who are bitten by the Li devil, or in reality are attacked by the ray fungus, and unless relieved by foreign methods linger on in unhealed lameness for many months. The infection of puerperal fever is due to the "birth devil." Old ulcers are created by the ghosts of departed beggars, and called "beggar devils." Thus the list could be prolonged indefinitely.

The great pity is that the people cannot be persuaded to discard their antiquated tom-toms, fire-crackers, and tomfoolery, and drive the bacterial devils out with fresh air, sunshine, boiling water, carbolic acid, and fresh burned lime. In the present plague epidemic not over six or seven bottles of carbolic have been sold from the dispensary, and these only to such Chinese as have been with foreigners. Many of the people are amusing themselves by carrying under their noses as prophylactic small balls of tar camphor, which are sold to them at extravagant prices. A few have sprinkled unslaked lime under their beds. Many of the sick have been carried out to the open ground, having a rough thatch hastily erected over them, and have been left there to die or get better. If this method were coupled with a little kind treatment the idea would not be wholly bad. One instance is where a mother and child were carried out and left in the open over night. In the morning the mother was dead, and the child wandering near its mother in search of food, was considered to be so much better that it was taken back home. Although there are just at present three foreign physicians in the place, there have been but few appeals to them for the treatment of plague. The Chinese guilds sent to Canton for a famous plague doctor to come down, and from all accounts he has been faithful in trying to give relief. But, on the whole, the Chinese seem to have settled it in their minds that plague is incurable and attempts at relief will be futile. So far as I can learn, a large number of the rapidly fatal cases have been pneumonic in type. A few days ago a house, in which there had been several deaths from plague, was burned down, and an old blind woman and a half-grown girl belonging to her, and who was ill with plague, were both badly burned and were brought to the hospital, not to be treated for plague but for their burns. The neighbours had expected the old woman to take the plague and die, and so had bought her a coffin. She was very stout and heavy, and in the effort to pull her out of the burning house her shoulder was dislocated and pained her very much. However, she did not grieve over the burns or the dislocated shoulder (which I reduced); but, oh! that coffin which was burned, and where would she get another?

In some of the houses which suffered most the dead rats were numerous, and spasmodic and scattered efforts were made to get rid of the rats. A middle-aged woman found a dead rat alongside her pillow on awaking in the morning, but although over two weeks have passed she continues well.

During these six months three foreign children have been born, all girls, and mothers and children are enjoying good health. In one case impaction of fæces occurred on the 14th day, and nervous excitement was so great that convulsions were feared, and the fæcal mass was removed mechanically under chloroform.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS taken at the Custom House, Hoihow (Kiungchow), October 1899 to March 1900. (Latitude, 20° 3′ 13″ N.; longitude, 110° 9′ 3″ E.)

MONTH.	WIND.							BAROMETER.		THERMOMETER.		No. of Days Fog.	RAINFALL.	
	No. of Days N. to E.	No. of Days E. to S.	No. of Days S. to W.	No. of Days W. to N.	No. of Days Variable.	No. of Days Calm.	Average Hourly Force.	Highest.	Lowest.	Highest.	Lowest.		No. of Days.	Quantity.
1899.								*Inches.*	*Inches.*	° *F.*	° *F.*	*D. h.*	*D. h.*	*Inches.*
October.....	21	8	...	...	2	...	3	30.39	30.04	83	74	...	2 13	4.48
November.....	25	5	...	...	...	...	2	30.53	30.02	80	60	...	0 17	1.27
December	15	14	2	...	...	...	2	30.49	30.10	83	63	0 14	0 15	0.66
1900.														
January	21	10	...	...	...	...	2	30.46	30.12	78	48	0 3	2 15	0.67
February.....	21	6	1	...	...	...	3	30.58	30.10	79	51	0 4	1 8	1.06
March	17	6	3	2	2	1	2	30.48	29.96	85	59	0 5	3 11	1.80

DR. A. SHARP DEANE'S REPORT ON THE HEALTH OF PAKHOI

For the Half-year ended 31st March 1900.

FOR the first three months of the period the health of the port was exceptionally favourable. From December up to date has been a season of epidemics, the worst of these being small-pox, which affected the native population more severely than in any year since 1894, and is still prevalent among them. Chicken-pox, measles, and influenza were among some of the other epidemic affections present.

The weather for the first three months of this year (1900) was particularly favourable for the spread of the epidemics named. Dense fogs prevailed nearly the whole time, from January until the middle of March, with only a few hours sunshine to brighten the scene. The winter was an exceptionally severe one, damp and gloomy, with at times frost at night. The cold, with a piercing north wind, was sufficiently intense to be the cause of death among some of the indigent poor creatures with scanty clothing and without a roof over them—those who may be seen along the main roads lying in a hollow, sheltered by only an old umbrella or a piece of matting propped up on slips of bamboo. The Cantonese in the town generously came forward, and by opening soup kitchens rendered an inestimable amount of comfort to this class of suffering humanity.

Plague has not made its appearance here since the finish of the epidemic in July last year, nor is it likely to occur as an epidemic during the present season. The earth is still moist and close after the winter rains, and the tendency of the weather being for periodical showers, the town will be kept in a fairly sanitary state until the heavy rains of June and July reach us, after which it may be pronounced with almost absolute certainty that we shall be free from the occurrence of plague until January or February 1901.

Heretofore cholera and dysentery, of more or less severe types, during July and August have followed seasons where continuously damp weather prevailed during the first few months of the year. Let it be hoped that the present occasion may prove an exception to previous years.

As to the sanitary condition of Pakhoi, the Cantonese residents, who are the prime movers in any improvement or philanthropic work, are endeavouring, of their own accord, to collect money for the purpose of repairing the streets inside and outside the town. This, certainly, is a step in the right direction, and one which will meet with success if supplemented by a continuous system of flushing the streets.

The most cleanly towns in China are those which, by circumstances seldom attainable, have a natural water supply running along the side channels of the streets from year's end to year's end. Pakhoi lends itself admirably to such a condition, were the natural supply of water forthcoming. The town is situated close down to the sea, and consists of three or

four streets running parallel to the shore, with a few cross connecting streets, and is built on an incline of about 1 in 20, falling towards the sea, with a slight trend from east to west, so that water admitted at the eastern end of the streets would flow westward and also from south to north into the sea. Now, if the people could be induced to engage the services of a hydraulic engineer to supply a continuous flow of water along the streets, and a staff of scavengers to keep the ways clean, then we might hear less about the spread of plague from Pakhoi.

I have found from contact with the Chinese here that there are some among them who keep themselves in touch with what is written and action taken regarding the extermination of plague in other parts of the world where that disease has taken root, and from what I can learn there are not a few who will influence the masses to adopt measures for the extermination of this disease so soon as Western science has proved that the method recommended will without doubt produce the result aimed at, and be a recompense for the initial outlay necessary on the adoption of such measures. But they are very reluctant to spend money on any scheme proved in practice to be a failure elsewhere.

They still hold to their old opinion that plague is a telluric disease (originating from the earth), and they say that now certain places have lately, through causes unknown, become favourable to the growth of the disease. Otherwise, they ask, why did plague wait until 1894 to leave its home when under exactly similar circumstances existing for many years prior to that date it showed no tendency to migrate? This and many other questions difficult to answer originate in the minds of Chinese who have spent the best part of their lives abroad—who may be considered more in the light of birds of passage than domiciles of their native land.

There is, however, no excuse for not adopting measures to keep the town in a decently clean condition, and the merchants, recognising the inconvenience they would be put to were quarantine regulations enforced here, are bestirring themselves to improve the streets, and will eventually institute some means of keeping them clean. For the present they cannot be expected to do more.

METEOROLOGICAL TABLE, October 1899 to March 1900. (Latitude, 21° 29′ N.; longitude, 109° 6′ E.)

Month.	Thermometer.			Rainfall.	Month.	Thermometer.			Rainfall.
	Highest.	Lowest.	Mean.			Highest.	Lowest.	Mean.	
1899.	° F.	° F.	° F.	*Inches.*	1900.	° F.	° F.	° F.	*Inches.*
October	90	60	77.46	0.17	January	79	37	54.19	0.69
November	83	50	67.57	0.43	February	76	40	53.50	2.76
December	82	49	68.79	0.10	March	80	46	62.50	3.93

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE HALF-YEAR ENDED 30TH SEPTEMBER 1900.

60th Issue.

PUBLISHED BY ORDER OF

The Inspector General of Customs.

SHANGHAI:

PUBLISHED AT THE STATISTICAL DEPARTMENT OF THE INSPECTORATE GENERAL OF CUSTOMS,

AND SOLD BY

KELLY & WALSH, LIMITED: SHANGHAI, HONGKONG, YOKOHAMA, AND SINGAPORE.

LONDON: P. S. KING & SON, 2 AND 4, GREAT SMITH STREET, WESTMINSTER, S.W.

[*Price* $1.]

1902.

INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions.

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence. / Causes. / Course and treatment. / Fatality.

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.— * * * * *

I am, etc.,

(Signed) ROBERT HART,

Inspector General.

To

THE COMMISSIONERS OF CUSTOMS.

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— ORTHOLAN, M.D.	Szemao.

DR. WILLIAM KIRK'S REPORT ON THE HEALTH OF ICHANG

For the Year ended 30th September 1900.

DURING this period the general health of the foreign community, now averaging 50 persons, has been on the whole good, although several cases of severe illness have to be recorded.

Three deaths occurred—two from malaria, and one from heat apoplexy accelerated by alcoholism.

There were three births, one still-born.

The winter months, colder than usual, were for the most part healthful and invigorating. The snowfall was considerably above the average, and there were frequent prolonged spells of frost.

The lowest thermometrical reading—20° F.—was taken on the 29th January. The spring was unusually dry, coincident with a general drought which seems to have existed over many parts of the northern hemisphere during this period. From January to June, which period includes the usual rainy season, rain fell to the extent of only 8.47 inches.

The greatest rainfall on one day—1.05 inches—occurred on the 6th April.

The summer was exceptionally severe, although shorter in duration. The great heat began about the third week in July and lasted, roughly, four weeks, the sustained high temperature during this period, rendered all the more oppressive by the usual up-river breeze being less in evidence, resulting in much discomfort and sickness.

An absolute immunity from cholera, typhoid, small-pox, and diphtheria was enjoyed, and no disease save malaria assumed an epidemic nature. The bucket system is the method in vogue here, and in the absence of an up-to-date drainage system and water supply, it seems to work admirably.

A disease resembling hay fever was present in May and June, and tonsillitis in its various forms was also at this period unusually common.

Among the foreign community the following cases have been treated during the period under review:—

Malaria	8	Chicken-pox	2
Chronic diarrhœa	8	Heat apoplexy	1
Tonsillitis	8	Hæmorrhoids	1
Dysentery, acute	4	Stomatitis	3
„ chronic	3	Hepatic congestion	4
Infantile diarrhœa	1	„ abscess	2
Dyspepsia	1	Appendicitis	1
Rheumatism	2	Nephritis	2
Bronchitis	2	Urticaria	2
Alcoholism	1		

The malarial cases occurred for the most part in early summer, and were all of remittent type. Two of these cases proved fatal, hyperpyrexia being the cause of death in both. Quinine in its different forms and by the different routes was tried, also antipyrin, phenacetin, cold baths, tepid sponging, etc.; but temporary subsidences were only to be followed by higher rises, until eventually, in each case, the temperature mounted to 110° F., at which death ensued.

Two of the dysenteric cases lapsed into the ulcerative type (MANSON), the stools containing, besides blood and mucus, yellow and ash-grey shreddy stinking sloughs, of sizes varying from that of a split pea to bulky tracts of the diseased membrane. Recovery in both cases was slow. Soda sulphate in hourly drachm doses, combined with quinine enemata, gave best results in these cases. Salol was also found most effective where the stools were offensive and foul-smelling. As a bowel disinfectant this drug has few equals.

During the hot months diarrhœa was unusually common, and in one or two instances dysenteric symptoms supervened; but complete rest in bed, with careful dieting and an occasional dose of salicylate of bismuth and Dover's powder, generally sufficed to allay them.

Since the death, 18 months ago, of Dr. RANKINE, of the Church of Scotland Mission, whose services among both the foreign and native community at this port were much appreciated, little medical work has been done among the Chinese; but as far as I can gather, there has been no epidemic or unusual amount of sickness among them. Owing to the Boxer outburst and the other sudden and startling developments of the past six months, which resulted in the withdrawal of the missionary element from this port, the opening of the much-needed hospital built by Dr. RANKINE has had to be postponed.

The crew of H.B.M.S. *Esk*, stationed here during the winter months, enjoyed excellent health throughout; but those of the gun-boats *Woodcock* and *Woodlark* were less fortunate. Stationed here at intervals during the spring and summer, the crews of these vessels suffered greatly from the heat, and cases of diarrhœa, fever, and malaria were of common occurrence. Mr. C. F. GOODHART, Tidesurveyor at this port, whose marked consideration for the well-being and comfort of the men of H.B.M.'s navy is well known, very kindly placed his

commodious house-boat—the *Jubilee*—at the disposal of the *Woodlark*, and in the absence of more suitable accommodation on shore, it served a most excellent purpose and was much appreciated.

I append an abstract from the Customs meteorological observations.

METEOROLOGICAL TABLE, October 1899 to September 1900.

MONTH.	THERMOMETER.				BAROMETER.		RAINFALL.	
	Highest.	Lowest.	Average Highest.	Average Lowest.	Highest.	Lowest.	No. of Hours.	Quantity.
1899.	° *F.*	° *F.*	° *F.*	° *F.*	*Inches.*	*Inches.*		*Inches.*
October	90	47	70.0	54.6	30.24	29.77	42	1.67
November	74	33	66.1	45.9	30.42	29.74	20	0.45
December	76	32	56.2	39.5	30.44	29.59	17	0.68
1900.								
January	58	20	44.4	29.2	30.55	29.77	21	0.30
February	74	27	55.9	32.0	30.47	29.63	14	0.51
March	83	33	65.0	44.0	30.22	29.38	33	1.08
April	88	47	73.8	54.7	30.15	29.29	59	3.46
May	102	55	87.7	64.5	30.17	29.34	27	1.98
June	103	61	92.3	70.8	29.82	29.33	24	1.19
July	104	71	97.3	75.9	29.68	29.16	30	3.59
August	110	68	102.0	76.6	29.69	29.22	22	4.08
September	105	61	94.2	68.0	30.15	29.54	25	1.03

DR. JOHN D. THOMSON'S REPORT ON THE HEALTH OF HANKOW

For the Half-year ended 30th September 1900.

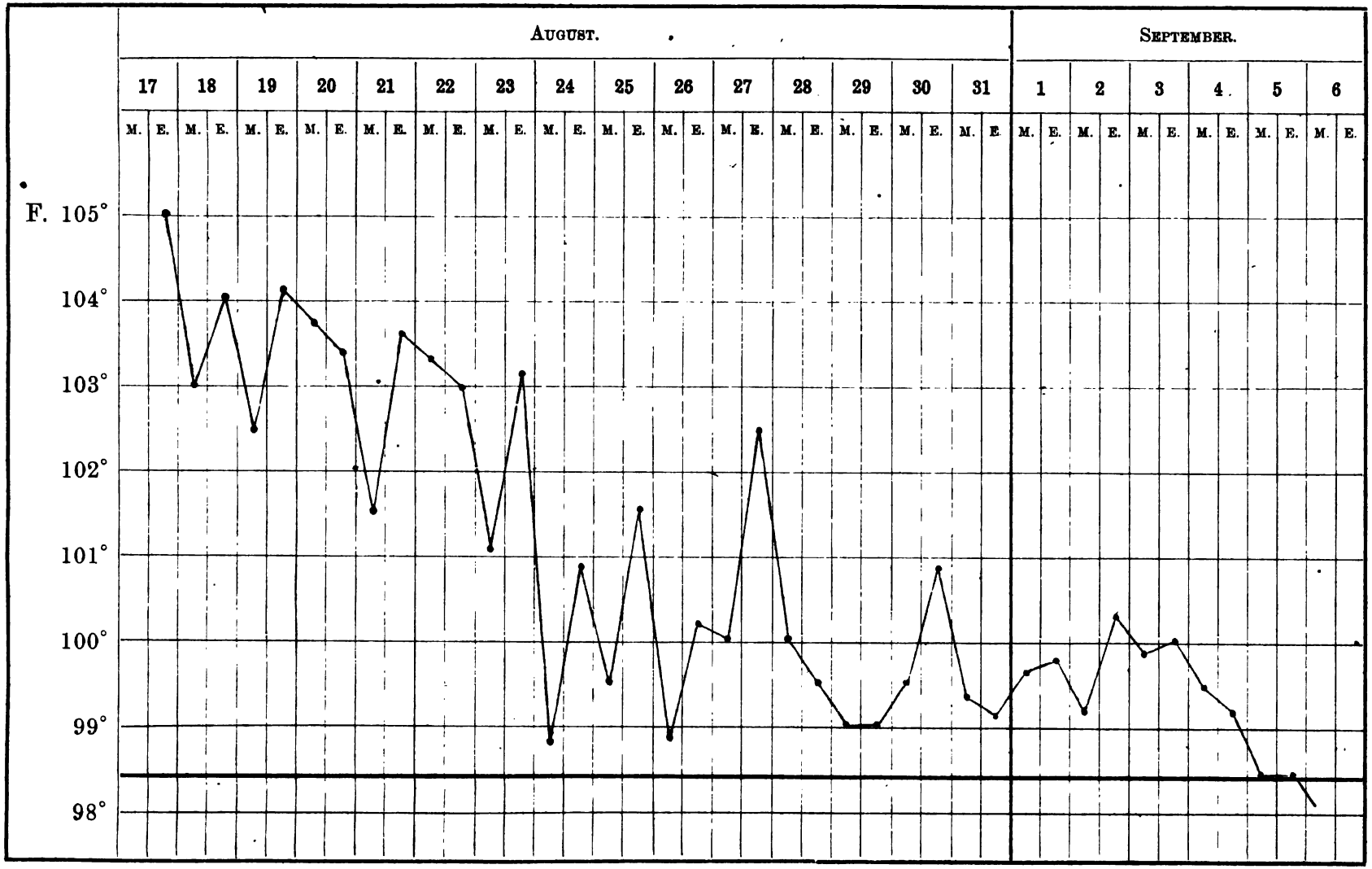
IN writing this Report I have kept in view the general features of the diseases met with here, rather than the minute details of isolated cases. When cases are reported under any heading, such as malaria, typhoid, and so on, it is with a view to illustrate general remarks or to bring out some point of special interest.

Appended are reproductions of (*a.*) skiagram of the Chinese woman's "small foot," and (*b.*) photograph and skiagram of an interesting case of acquired curvature with thickening of the upper end of the femur in a Chinese patient.

MALARIA.

In recent years and previous to 1898 the recognised form of malarial fever contracted in Hankow presented the clinical features of the benign tertian. The more severe forms that were then very occasionally seen had been contracted elsewhere, mostly in South China and in Formosa. Not long after my arrival in Hankow I remember having been called to a patient suffering from a pernicious attack of the algid type. The appearance of the patient closely resembled that of one in the collapse stage of cholera, and having seen a case of cholera not long before, this was naturally the first disease to suggest itself to me. The patient, however, who had been wrapped in blankets and surrounded with hot-water bottles by his own directions at the very outset of the attack, was just beginning to recover from the collapse, and found voice sufficient to give his own diagnosis. He had been some years in Formosa, and he had survived two similar such attacks. Luckily for both of us, he knew exactly what measures to adopt from the beginning, and it was a comparatively easy matter to "carry on."

In the beginning of 1898 operations involving extensive upturning of the soil were begun here; and during the spring, summer, and autumn of 1898 and 1899, though I have never again seen any pernicious attack of the algid type, the continued became the prevailing type of fever contracted here. The parasites found were small, pale, active amœboid forms, rods with rounded ends, and small, pale ring forms—all unpigmented, as a rule, though very rarely some contained a granule of black pigment. Often two or even three parasites were found in one corpuscle. The largest sizes seen rarely exceeded half the diameter of the containing corpuscle. In some cases, after one or two days treatment, shrivelled wormeaten-looking rods, apparently in various stages of disintegration, were seen still inside red corpuscles. The rods I have not seen figured, but the different amœboid forms and the pale rings exactly resembled those figured in various works as belonging to the æstivo-autumnal parasite. The crescent forms,


August.
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17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6
M. E.
F. 105°
104°
103°
102°
101°
100°
99°
98°

Fig. A.

Fig. B.

however, characteristic of this infection, were never found except in two cases—one a foreigner, who probably contracted his illness elsewhere, and the other a Chinaman from a distance. As our observations (those of my brother and myself) were made nearly all of them on foreign patients who had quinine administered to them at a very early stage, this may account to a certain extent for the non-appearance of crescents, but can scarcely answer for their absence in every case. Admitting, too, that we have not looked for crescents systematically, we ought still to have come across some in our frequent blood examinations; and this absence of crescents makes us doubt the exact identity of the parasite found with the described forms of the æstivo-autumnal parasite. As to Anopheles, during the time that malaria was most prevalent here we did not know to look for them. This year there have been comparatively few cases of malaria. The season has been very dry, and there have been fewer mosquitoes of any kind than usual in Hankow. We have caught only two specimens of Anopheles, and those feeding on our own blood. Though these have been somewhat spoiled in the mounting (Canada balsam), the accompanying reproductions of microphotographs nevertheless show more than could be conveyed by any word-description of mine. Fig. *A* shows the head, proboscis, palpi, and antennæ of one of the specimens clearly, also part of the thorax and part of a wing (two of the legs have been broken off). Fig. *B* shows a whole wing, the caudal extremity, and part of the other wing of specimen 2. The very tip of the caudal extremity is not in focus, and the wing has lost many of its scales.

During 1898 and 1899 the most severe and the most persistent cases of fever were either those that at the start were apparently masked by a "touch of the sun," or those in which some definite complication existed—usually an aggravation of some previously existing weakness or lesion. In the first-mentioned group there had been exposure; and the initial symptoms were high temperature, dry burning skin, severe headache, usually pains in the back and bones generally, sometimes sighing respirations with more or less stupor.

Case 1.—In this case the temperature chart is rather interesting. The patient, though seen by one of us from the beginning, did not come under our charge until the 23rd August. His illness began suddenly on the 17th August. He had been exposed to the sun during that day. In the evening his behaviour was erratic, his skin was hot and burning, and his temperature was found to be 105° F. He was treated energetically for heatstroke, and so far as the case had gone, this was probably correct. The chart from the morning of the 19th to the morning of the 21st, and again from the morning of the 21st to the morning of the 23rd, shows two very symmetrical curves. On the 23rd parasites were found and quinine given. The temperature next day, in place of being 103° F. in the morning and 102°.8 F. in the evening, as suggested by a continuance of the curves, was 98°.8 F. in the morning and 100°.8 F. in the evening. On the 25th the upward limb of the curve was more or less maintained, and so again on the 27th; while on the 26th, as on the 24th, the curves were broken. On the 27th it appears to us that there was a tendency to begin an eight-day repetition of these curves. A dose of phenacetin was given and quinine again pushed. After this the temperature kept down, and there is little more to be said than that it did not reach and remain at the normal until eight days had passed.

Case 2.—In the next case that I will mention here the patient had also been exposed to the sun on a hot day in August. Almost immediately afterwards he complained of headache, pains in his bones, and a general feeling of malaise. His temperature rose rapidly, and during the first fortnight of the illness there was a marked tendency to hyperpyrexia, requiring strong measures to prevent it. Parasites were found together with free pigment, and quinine was given at first by the mouth and then hypodermically. Later on calomel purges were found to have good effect. To combat hyperpyrexia, frequent sponging, guaiacol inunctions, and sometimes phenacetin, antikamnia or antifebrin combined with caffeine, digitalis, and brandy, had to be resorted to. After inunctions or after antifebrin, perspiration would drench pyjamas, sheets, and bed; and yet in a short time the temperature would mount up again and similar measures have to be repeated while quinine was being pushed. At page 118 of *Tropical Diseases*, under treatment of hyperpyrexia in malaria, MANSON recommends "prolonged immersion in the cold bath, rectal injections of iced water, ice bags to the head," etc., while "at the same time quinine must be injected hypodermically or into a vein in full doses, and repeated every three hours until 30 or 40 grains have been given." "The cold bath," he says, "is absolutely necessary," while "in such circumstances antipyrin and similar antipyretics are worse than useless." These statements do not seem to make allowance for individual circumstances. In the present case the cold bath could not be borne. The patient had a decided dread of cold, and it is conceivable that, even with every precaution, congestion of internal organs might have followed its use. As to antipyretics, much probably depends on when and how they are prescribed and on the care taken after the dose has been given. This was a case of Scylla and Charybdis. The patient had to be watched night and day. He was stout, with a weak circulation and a tendency to venous congestions. Calomel probably helped us here. There was a circumscribed dull patch in one of his lungs which had been there for years—the result, I believe, of a pneumonia. How far these circumstances contributed to the severity and to the persistence of the case, I cannot say, though I incline to think that parasites may find shelter in weakened spots. The patient ultimately recovered perfectly. The temperature yielded about the 16th day, and reached normal limits about eight days later, though there were slighter rises for weeks after this; and it was not until some months after he left the Yangtze Valley that he got quite strong and well again.

Case 3 began after a fatiguing walk over marshy ground, under a hot sun, with insufficient protection. Prostration was very marked in this case, and the respirations were slow, shallow, and interrupted by frequent sighing. Fearing that the patient would succumb to the heat if kept long in Hankow at that season of the year, we had him removed to Kuling, a summer resort on the mountains behind Kiukiang. In Kuling, after being free from fever for a few days, he stopped taking quinine, and eight days later he had a very severe relapse complicated with acute dysentery. I went to Kuling when he was at his worst, and for a time quinine was given solely by hypodermic injection and alternated with guaiacol rubbed into the skin, while the dysentery was being further attended to. Many injections were made into the tissues between the shoulders without any untoward result; but, unfortunately, the same cannot be said of a trial made into the thighs. He was weak at the time, with little or no subcutaneous fatty tissue. The dose—15 grains of the sulphate dissolved with the aid

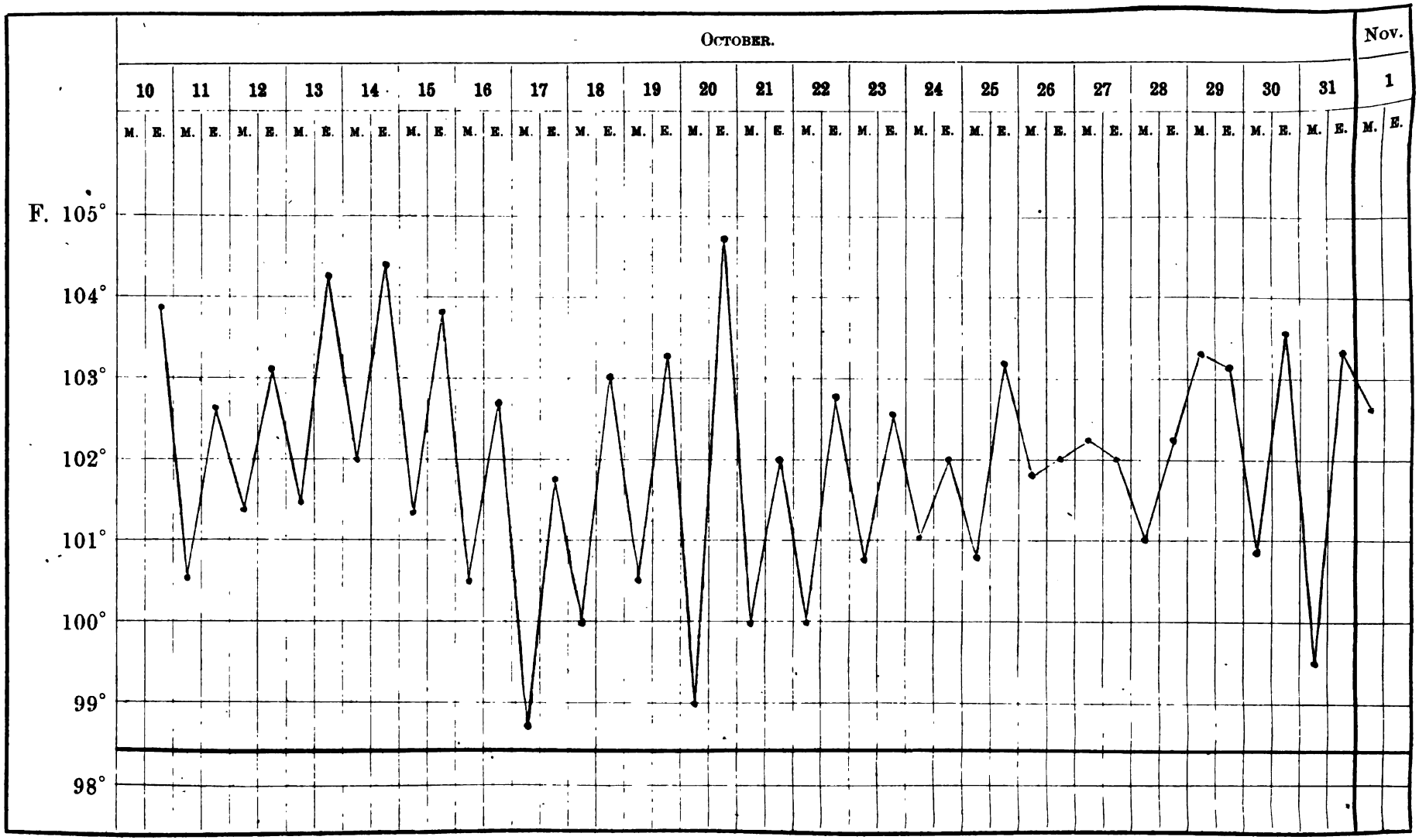
of hydrochloric acid in the way mentioned on page 114 of *Tropical Diseases* (MANSON) as used by BENSON—was divided between the two thighs. In one case the needle penetrated the deep fascia and the solution was injected under it; in the other the solution was injected into the subcutaneous tissue. Three days after this the thigh on the side where the needle had penetrated the deep fascia became swollen, extremely painful, and tender to the touch. Next morning I was horrified to find some fine crepitation over the swelling. His temperature at the same time had risen to nearly 105° F. Although I knew that I had been careful in using all antiseptic precautions, I now feared that in some way acute septic cellulitis had been set up. I was prepared to make free incisions into the swelling; but by evening the fever and alarming symptoms had greatly subsided. Fine crepitation now began to give way to larger bubbling sounds, and later on to a sort of gurgling. By this time fever had subsided and all general symptoms had improved. The evolution of gas, causing first fine crepitation, then bubbling, and lastly gurgling sounds, was most probably due to a purely chemical process—the contact of the unabsorbed free acid of the injection solution (free hydrochloric acid) with the alkaline juices of the tissues, and as the alkaline juices were renewed, the process lasted so long as there was any free acid left. Untoward results following the hypodermic injection of quinine will be referred to again below.

Case 4.—The patient in this case had been overworked and worried for some time previous to the onset of fever, and prostration with extreme mental depression were marked features from the beginning. When first seen his temperature was 104° F. There was nothing apparently in his various organs to account for this temperature. His lungs, heart, liver, and kidneys (from urine examined) were all healthy; his bowels were somewhat confined; his spleen could not be felt under the ribs; but microscopic examination of the blood revealed the presence of intracorpuscular parasites at different stages of development and some masses of free pigment. His bowels were relieved by a purgative, and quinine was given in solution in 15-grain doses at intervals of four and six hours. During the first week the temperature varied from 102° F. to 105° F. After this it improved, and as he complained bitterly of the effects of quinine, it was discontinued for a whole day. Following this he had two severe rigors with an interval of 12 hours between. During these rigors the temperature rose rapidly to over 105° F., and fell again for a short time after each rigor, with profuse perspiration, to nearly normal. Quinine was administered hypodermically—30 grains of the hydrobromide before and after the second rigor, and continued until, in all, 2 drachms had been given in 48 hours. This broke the fever; but four days later signs of pneumonia manifested themselves at the base of the right lung. From the base it rapidly spread throughout the whole of the lower lobe, and as the pleura became involved, hypodermic injection of morphine had to be given to allay the pain. Bloody sputum followed and continued for a fortnight. About a week after the onset of pneumonia in the right side, pleurisy set in on the left, and morphine had again to be resorted to. Though for a time the patient was in extreme danger, both the pneumonia and the pleurisy ran a favourable course and he made a very good recovery.

Case 5.—For several weeks this patient had had low continued fever—99° F. to 100° F. or, rarely, 101° F.,—and had been taking small doses of quinine from time to time. One day, on

examining the blood, I noted, in addition to some intracorpuscular parasites, an unusual number of small masses of free pigment; and remarked upon the possible danger of such a condition. Next day the patient's temperature rose to 103°.5 F., the mental condition became alarming, and for a few days after this the condition was critical. Guaiacol rubbings alternating with hypodermic injections of quinine, with a calomel purge to begin, was the treatment adopted; and after a few days improvement set in and recovery was rapid.

Case 6.—The patient in this case had suffered from what was apparently typhlitis before coming to the East; and the case illustrates the importance of attention to such conditions before determining one's fitness for residence in hot climates, and the gravity of organic disease of the bowel with malaria superadded. Arriving here in spring, his bowels gave trouble from the first. They were never regular, and the motions were generally loose, often offensive, slimy, and occasionally streaked with bloody mucus. He had a large appetite, and at his best a rather sallow complexion. By the end of the first summer he had malarial fever. His temperature to begin with used to rise every second day, then every day, and lastly it assumed a low continuous type. He picked up during the winter, but his bowels continued to give trouble from time to time, and thickening could be felt along the course of the colon, just over the cæcum. During the following spring low continued fever with exacerbations every second day began, yielded for a time to treatment, to reappear again later on. A change to the hills did good; but soon after his return to Hankow in early summer, fever set in again worse than before, and the bowels also began to give more trouble. He was recommended to give up China and go home; but this he could not well do. Another change to the hills did some good, but in September the bowel again gave trouble. On the 9th October a severer type of continued fever set in. Parasites and free pigment were found in blood drawn from the finger-tip. The chart gives the course of the temperature from 10th October to 1st November—the day of death. Thickening of bowel could be felt as before, but at the onset of fever was not markedly tender. As before, the stools were for the most part loose, dark coloured, offensive, sometimes glairy or with blood-stained mucus. Later on there was more tenderness in the neighbourhood of the cæcum, over the ascending colon, and paresis of the bowels with tympanitis followed. Early on the 31st October severe abdominal pain set in suddenly, and was followed by all the signs of acute peritonitis from perforation, and death ensued within 24 hours. When the temperature rose suddenly on the 20th from 99° F. to nearly 105° F., after several specimens of blood from the finger-tip had been examined, two parasites only were found. After death, blood from the enlarged spleen showed parasites in great numbers. The walls of the ascending colon up to 3 or 4 inches beyond the cæcum were very much altered. The lumen was small and tortuous, the mucous membrane much ulcerated, the walls much thickened at some parts and reduced to peritoneum at others. There were some adhesions to the abdominal peritoneum, and a perforation in one of the thin, deeply ulcerated portions. The appendix vermiformis and adjacent part of the cæcum were perfectly healthy. There was no sign whatever of any ulceration in Peyer's patches of the small intestine. The liver was not enlarged, but on the convexity of the right lobe there was a carbuncular-looking slough, projecting very slightly from the surface, fully 3 inches in diameter and about 2½ inches deep. During life the patient had not complained of pain in the liver region.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Case 7.—In several respects Case 7 resembled Case 6, just described. The patient had a sallow, muddy-grey complexion, like the last, and a tender spot in the colon, situated, however, over the beginning of the transverse colon, in place of the ascending colon, as in the last. There was paresis of the bowels with tympanitis in both. The stools in this case were at first watery, dark brown in colour, and very offensive; afterwards, slimy and undigested. The patient's tongue was furred and generally moist. His appetite (for slops) was good. At the onset of the fever parasites were found in numbers—amœboid forms, rods, and ring forms. The spleen was considerably enlarged, and remained distinctly palpable under the margin of the ribs when he left for home convalescent.

Untoward Results following the Hypodermic Injection of Quinine.—Under the paragraph headed "Hypodermic Injection of Quinine" in MANSON'S *Tropical Diseases*, the following sentence (page 114) occurs: "This method of giving the drug is sometimes a painful one, and may be attended with some risk of abscess; in the circumstances, such possibilities count for little." And in another paragraph (page 115) tetanus is mentioned as having been inoculated by the needle in giving hypodermic injections of quinine. It is not to results due to want of aseptic precautions, however, that I refer to here, no such having come under my notice. The word "abscess," as signifying a collection of pus, does not express the condition I have seen. Under Case 3 I have already described what in this instance (unique in my experience) took place after the injection of quinine solution under the deep fascia of the thigh. In the other thigh, where the remainder of the dose was injected into the subcutaneous tissues, these broke down for a considerable distance, and a portion of skin (about 1 by ½ inch) round the puncture became bloodless and pale, died *in situ*, but did not separate before the patient was sufficiently convalescent to be sent for a change and had passed beyond my observation. Four other cases, however, of degenerations similar to the subcutaneous and to the cutaneous of the last have come under my notice. When the subcutaneous tissue only was involved, a more or less diffuse swelling formed, which, if opened, discharged a clear, glairy fluid, something like the raw white of egg; when cutaneous, the portion of skin involved died *in situ*, remained white, and separated only after the lapse of weeks, leaving a painless, aseptic ulcer which, like the subcutaneous degeneration, exuded a clear, glairy fluid and took months to heal. Even after healing has begun, the newly-formed tissue is liable to break down again and again; but beyond the trouble of retaining suitable dressings, these sores do not inconvenience the patient very much. In the cases that happened in my own hands, a sharp burning pain was complained of at the time of puncture and during the injection of the first few drops, and the skin, if it subsequently died, became pale, blanched, and slightly raised, somewhat like a weal, round the needle. When in subsequent cases this happened, the needle was immediately withdrawn and a new site selected for the injection. It may be that some nerve twig connected with the nutrition of the part is penetrated by the needle or destroyed by the solution in these cases. If in other cases the preparation used and the quantity injected in one place may partly account for untoward results, I am inclined to believe that the site selected and the low vitality of the patient had more to do with them. I have frequently injected 15 grains of the hydrobromide or 10 grains of the hydrochloride by one puncture between the shoulders, and repeated this many times in the same neighbourhood (*i.e.*, between the shoulders), without any

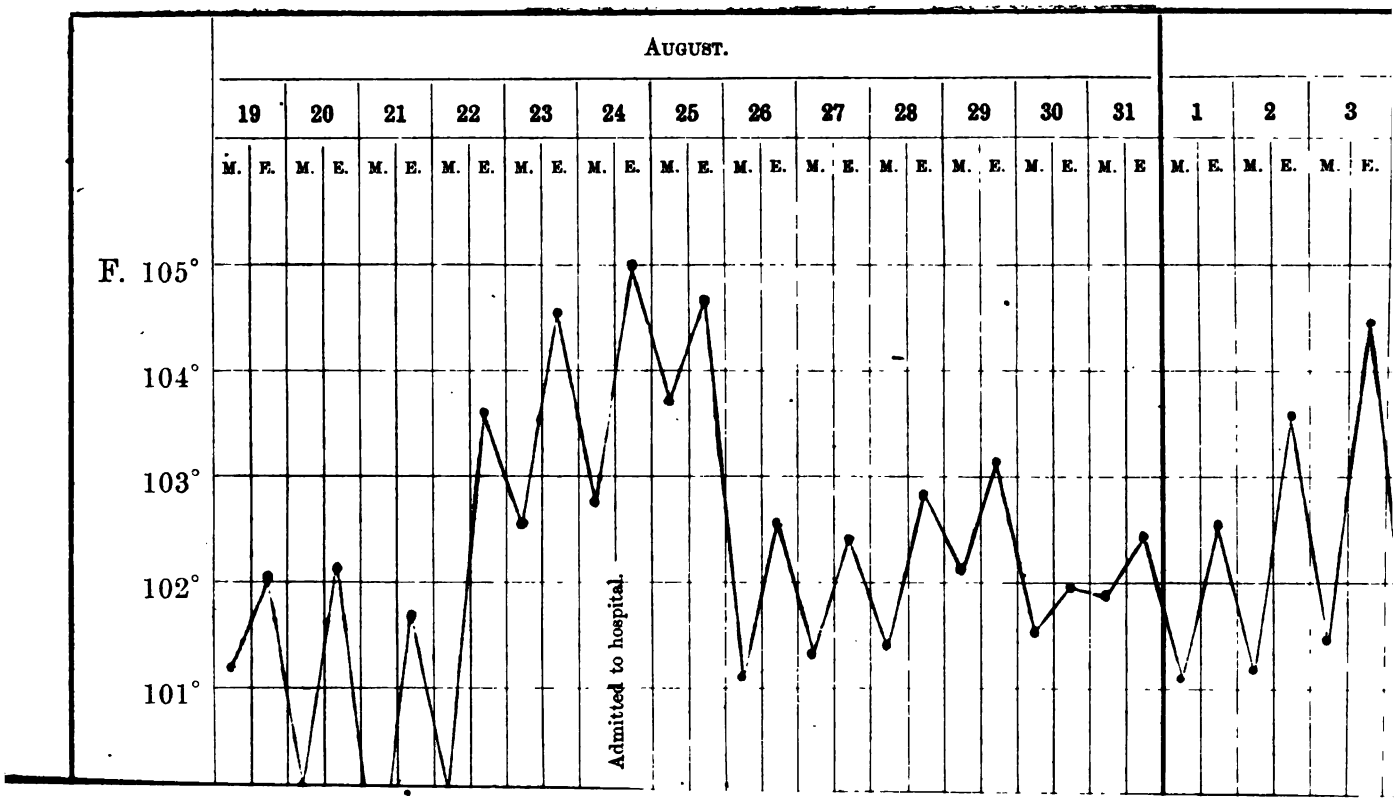
untoward result; while a patient who was sent to hospital suffering from "typhus" had a troublesome necrosis of the skin on the leg at a spot where only 4 grains of the acid hydrochloride had been injected by his medical attendant before the diagnosis of typhus was made. When a patient is very weak, or weak and emaciated, subcutaneous injections of quinine into any part of the extremities are, I believe, apt to be followed by such untoward results as are here referred to. In all cases I would select the deep tissue between the shoulders and immediately dispel the quantity injected by careful rubbing and massage; or where the extremities alone were available, I would try the intravenous method with the special solution referred to on page 115 of MANSON'S *Tropical Diseases*.

Hæmoglobinuria as the result of large doses of quinine has not come under my notice.

Of *visual disturbances* I have noted three cases. In one, amaurosis was complete but very transient, having lasted not quite half an hour. In another, amaurosis was less complete, but lasted for some hours. In the third case the visual field was reduced to a small area; but this area, the area of central vision, remained clear throughout. This condition lasted for two days or more. The patient could see only a small part of one's face at a time, but that very clearly. In trying to read, he could see only a few letters of one word at a time; these appeared exceptionally clear and distinct—perhaps only in contrast to the surrounding darkness. All patients were taking quinine at the time. The two first mentioned were taking considerably larger doses than the third; and yet from its very transient nature the amaurosis in these cases may have been malarial and not the result of quinine. One of these patients had to get quinine hypodermically, and in large doses, for some time after this, but with no bad result. The third case looked more like the result of quinine, and yet he had taken only 10-grain doses of the sulphate in solution four times a day for three days when the effect was produced. The fever had then greatly subsided. He stopped taking quinine for a time, and on resuming it, took only 5-grain doses three times a day. Ophthalmoscopic examinations were not made, nor were minute tests of visual acuteness afterwards tried; but practically, at all events, no permanent ill effects were complained of in any of the cases.

TYPHOID (ENTERIC) FEVER.

Every year cases of enteric fever occur in the Concession. The sufferers are usually temporary residents, young adults, or comparatively recent arrivals from Europe. These are also liable to contract malaria; and since malaria has become more prevalent and of the continued type, the diagnosis of typhoid has become clinically more difficult. The microscope, though it usually settles the question of malaria, does not eliminate typhoid; and typho-malaria (*i.e.*, typhoid in a malarial) is becoming increasingly frequent. Now and again unmistakable and clinically typical cases of marked typhoid still occur, but mixed and often doubtful cases are on the ascendency. I speak within my own experience—not of the earlier days of the Concession, when, apparently, malaria and typhoid were even more mixed than now. One is sometimes apt to doubt the observer, when in reality the changing conditions may be responsible for some alteration in the aspect of disease. Even apart from probable advances in the science of medicine, I believe that in a few years, when works now in progress have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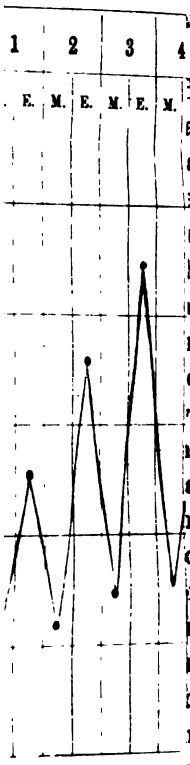


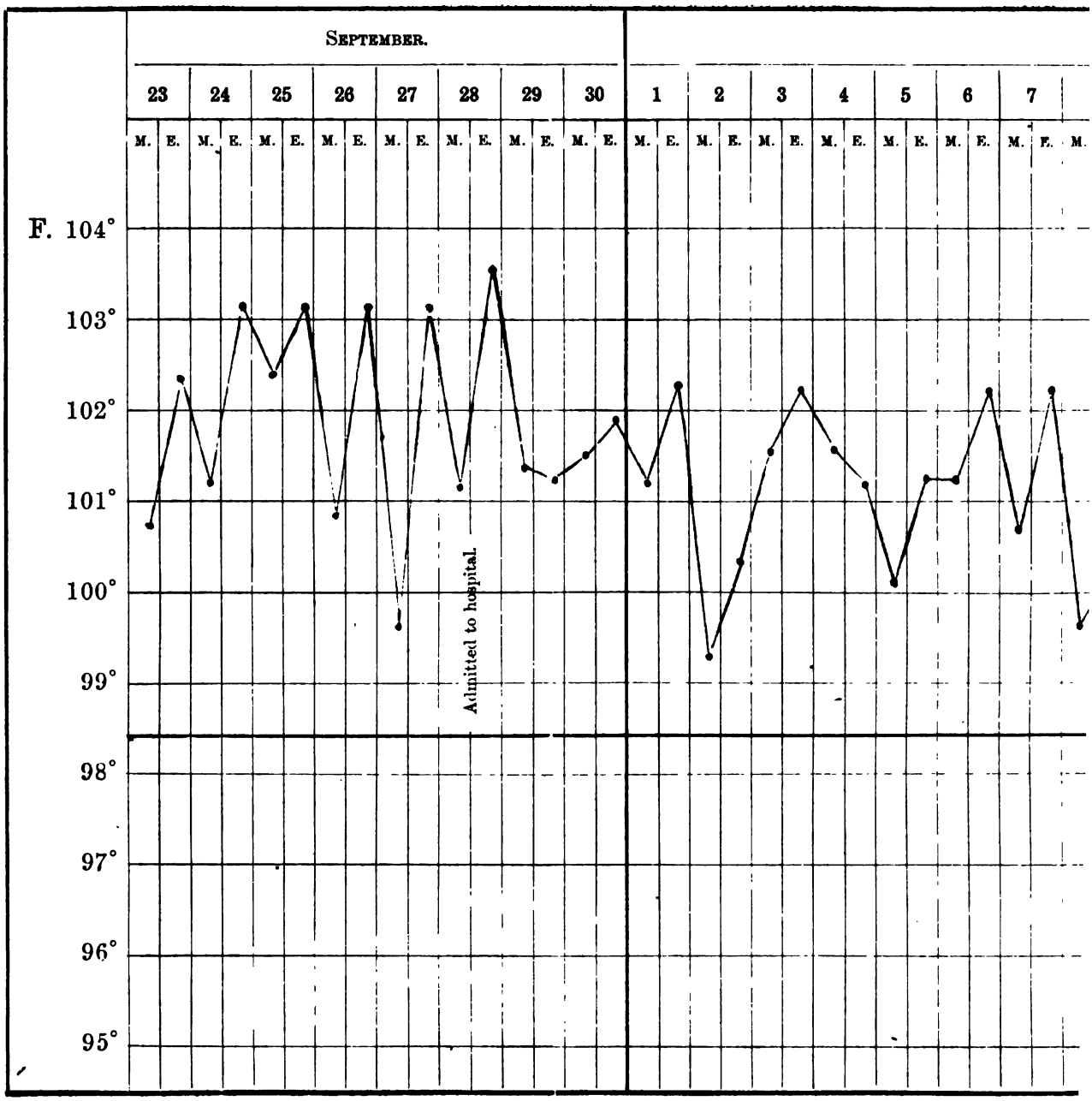
ven completed and our surroundings change, the difficulties I refer to here will have anished. In some doubtful cases I have had specimens of blood tested for Widal's reaction the Pathological Laboratory, Shanghai, by the courtesy and kindness of the Medical fficer of Health in charge. But Widal's test is not absolute. Resting as it does on inductive asoning, since class "typhoid" is small compared to class "not typhoid," it is evident at in any given case the negative conclusion ("not typhoid") would be the first to carry eight—provided, of course, that all conditions (period of illness, dilution of serum, age and urity of culture, etc.) had been fulfilled. The positive conclusion, even if supported by hat, after all, is only partial analogy, viz., the action of serum of immunised animals on the acilli against which they have been rendered immune, cannot be said to be more than rongly presumptive. There are some cases where one cannot afford to dispense with any d to diagnosis. Taken by itself, "Widal" may mislead; but in conjunction with clinical mptoms and signs, it is often of the utmost importance. About three years ago, when ne severer forms of malaria seen here had been contracted elsewhere, I sent to the Pathological aboratory, Shanghai, two specimens of blood to be tested for Widal's reaction. One of hese specimens was taken from a patient with high fever who had just been brought to ospital from an ocean steamer in port; the other from a patient who had been in hospital r some time and who, judging from the clinical symptoms and signs alone, was evidently ffering from a severe attack of typhoid. On the same day that I sent the specimens I xamined the new patient's blood for evidence of malaria; and having found free pigment nd parasites in abundance, I treated him energetically with quinine, while at the same me, in accordance with invariable practice in unproved cases, I observed every precaution sual in typhoid. The answer about the Widal reaction reached me by return steamer from hanghai (six days after I had despatched the specimens); but by this time the new patient as free from fever and was feeling well. The answer, nevertheless, was that the first specimen s well as the second gave marked Widal's reaction. The patient was a youth on his first oyage from England. He had had fever for only two days before he was brought to hospital. here was no history of previous typhoid. The ship had come to Hankow direct from berdeen Dock, Hongkong, where she had lain for 10 days or more, and patient stayed on oard the ship while she was in dock.

The following cases, whose temperature charts are introduced here in parallel, are entioned chiefly in relation to Widal's reaction. The charts start from the day on which he patient in each case reported himself ill, and the dates refer to the days of the month. oth patients were in hospital at the same time.

On the 4th September (*i.e.*, on the eighth day of fever for No. 2 and on the 17th day f fever for No. 1) specimens of blood were taken and sent to the Pathological Laboratory, hanghai, to be examined for Widal's reaction. Arriving there on the 7th September, the xamination was made and the report sent off that same evening and reached me on the 11th. n each case the report was "No typhoid reaction." Clinically, however, No. 1 had then all the ppearance of a typhoid patient. He had had headache during the first week of illness; his upils were dilated by the second week; his tongue, tremulous, dry, and brown, was now (by he time the answer came) becoming moist and cleaning from the edges; his pulse, at first soft

and comparatively slow, was now easily excitable and dicrotic; his abdomen somewhat distended and tympanitic, with tenderness in the right iliac fossa; there was marked muscular wasting, tenderness on grasping the adductor group of muscles, and so on. The clinical picture of No. 2, though not so markedly, still strongly suggested typhoid. Not satisfied with the report in these cases, I took fresh specimens of blood on the 13th September. These reached Shanghai on the 16th, and the report reached me on the 20th. This time the report was that No. 2 gave the typhoid reaction, but that No. 1 gave no reaction. The clinical picture of case No. 1, however, was too convincing to be annulled by these negative reports; and when the relapse marked in the chart set in, I wondered if the negative reaction could be explained by supposing a want of formation of antitoxin (which might also be the cause of clumping) in those cases that relapse. In reply to a query on this point, Dr. STANLEY wrote: "I have not observed any absence of the Widal reaction in cases which have relapsed. In one case which had a relapse which I remember distinctly, the reaction was given early in the case. Your explanation, that it might be due to want of formation of the agglutinating material which may also be antitoxic, is very interesting, and I will look out for confirmation." Following this (as will be seen from the chart), No. 2, which gave the reaction on the second occasion, had a relapse similar to No. 1. If, therefore, we are to suppose a want of formation of antitoxin in those cases that relapse, we must separate this antitoxin from the "agglutinating material" on which we may suppose the Widal reaction to depend; and if one may extend such a hypothesis, the cases here referred to may further suggest that, though the two substances may usually be formed together in proportionate quantities, this need not always be so. This latter supposition would point to the possibility of failure to obtain the Widal reaction in certain extreme cases; so that, quite apart from errors in technique, even the negative conclusion, which with all conditions satisfied we saw would be the first to carry weight, might occasionally mislead.

Referring to recent cases only, since the beginning of August of this year we have had under treatment 10 Europeans and one Japanese suffering from typhoid fever. Of these, eight have been from men-of-war in port, one from the neighbourhood of Hankow, and two are members of the community. Of those from the men-of-war, three had contracted the disease before their arrival in Hankow, while the remaining five contracted it here. Of the 11, eight have recovered, one (the Japanese) died, and two are still under treatment. About the eight that recovered there is nothing special to remark, except that one case was very protracted. During the second week his temperature reached 105° F., and it did not reach normal until the end of the fifth week. The patient was delirious, and passed his motions unconsciously for the greater part of the time. For a week or 10 days after convalescence set in he was feeble-minded and childish, but contented and easily managed. Later on, recovery was rapid and complete. The case of the Japanese that died deserves mention. Until the temperature reached normal, at the end of the fourth week, everything seemed to be going on satisfactorily. Throughout the period of fever there was nothing special to remark; but as soon as his temperature reached normal, which it did at the very end of the fourth week, the patient, who was till then quiet and obedient, became wildly excited, threw off all bedclothes, refused food, asked for sugar only, and insisted on smoking cigarettes. For some nights he shouted at the pitch of his voice most of the time, and was kept in bed with difficulty; while during the day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95°
Admitted to hospital.

he was usually in high spirits, chatted, sang, smiled, was very friendly, but politely declined everything except sugar and cigarettes. After a time he became more subdued, depressed, and partly comatose; while at times he could now be induced to take a little nourishment. His temperature during the first two weeks of this period was practically normal, while during the third week it varied from 98° F. in the morning to 101° F. or 101°.5 F. in the evening, and then for two days before death it remained at 97° F. Death took place quietly at the beginning of the fifth week of this period, *i.e.*, between eight and nine weeks from the beginning of his illness. He was extremely emaciated before death took place. There was no postmortem examination.

One of the cases still under treatment is complicated and peculiar. The temperature chart is introduced here *in extenso*. The patient, a strong adult, of somewhat plethoric habit, was admitted to hospital and came under our charge on the 28th September. He was then cyanosed, the heart sounds were weak, and his pulse was feeble but regular. Cerebration was slow. It took him about 30 seconds to understand and begin to answer the simplest and shortest question. His conjunctivæ were somewhat jaundiced, his pupils equal and normal, and he had twitching of the wrist tendons. During the week (the second of his illness) he had frequent fluid bilious stools, his tongue was dry and parched, cerebral sluggishness increased, twitching of wrist tendons continued, cyanosis remained marked and the conjunctivæ slightly jaundiced. No spots were seen, nor was any decided tenderness in the right iliac region elicited. Widal's reaction was positive. During the fourth week his temperature was for the most part very subnormal. His pupils were now widely dilated, he had low muttering delirium, dry tongue, and very feeble intermittent pulse. On the 14th October (16 days after admission to hospital) he had, for the first time, much bilious vomiting; and on the 15th he vomited 4 ounces of dirty greyish-yellow pus—sweet and with no trace of blood. After this retching and vomiting ceased. From the 15th to the 20th his temperature, taken frequently in the axilla, registered 95° F. He was cold and collapsed, his nails were blue, his face cyanosed, and his pulse at times was scarcely perceptible at the wrist. When his temperature rose again he became excited and noisy. This was followed by another collapse. At present his temperature keeps within fairly normal limits. From the end of the fourth week onwards his stools have been fairly normal, though more often than not they have been passed unconsciously. His pupils are still very widely dilated; he is still dusky; his pulse, though better than it was, is still very feeble; and his mental condition cannot be said to have improved.

Small-pox.

Since spring of 1898 only three foreign small-pox patients have been treated here. One case was discrete and two were mild confluent; none hæmorrhagic. All made good recoveries.

Typhus Fever.

During late spring and early summer of 1898 three foreign patients were admitted to the wards for infectious diseases suffering from typhus fever. All were severe cases. In two instances, both debilitated subjects, it proved fatal. The third patient, though he recovered, was

at one time almost despaired of. Since 1898 there has been no case of typhus fever among foreigners here.

Chicken-pox and Measles.

These are mentioned merely to say that there have been cases of both among the foreign children in Hankow during the period under review.

Heatstroke.

Every year, in addition to cases of heat exhaustion and of sun traumatism, there occur, during the most trying—not necessarily the hottest—week of the summer, two or three cases of what for the sake of distinction, as well as with the idea of its being a special disease, has been termed siriasis. From the 5th to the 10th August of this year three such cases occurred.

Case 1.—I was called for the first time to see this patient about 3.30 A.M. on the 5th August. He was then totally insensible, cyanotic, and breathing stertorously with the rattle of mucus in his trachea. His conjunctival reflex was in abeyance, his conjunctivæ suffused, and his pupils dilated. A large, offensive motion had been passed unconsciously in bed. His skin was pungently hot. His pulse at the wrist was almost imperceptible. His temperature in the axilla registered 110° F. Death took place in about half an hour from the time I first saw him. The victim in this case was a short-necked, stout, somewhat plethoric, fair-skinned man, of about 35 years of age. He had lived in the East for nearly 12 years, but for the most part in the North. He came to Hankow in December last, and had never been on the sick list. I learned afterwards that on the evening of the 3rd August he was irritable and worried, and that he got no sleep that night. On the evening of the 4th he came home feeling tired and out of sorts, had no appetite, and went to bed early, attributing his feelings to the previous restless night. At about 3 A.M. a friend in an adjoining room had his attention drawn to patient by unusual sounds proceeding from his direction, and on seeing his condition immediately sent for me.

Case 2.—The patient in this case was dark complexioned, neither stout nor thin, and not plethoric. He was a missionary. While sitting at table with others in the same mission, about 8 P.M. on the 8th August, he suddenly became very excited, rose from table, stamped round the room, then rushed upstairs. On reaching his bedroom he sank unconscious on his bed; and when I saw him, about 20 minutes later, he was quite insensible, breathing stertorously with the rattle of mucus (as in the other case), cyanotic, and with a temperature of 109° F. in the axilla. 10 minutes later, notwithstanding efforts to reduce his temperature, the thermometer in his axilla registered 110° F. Breathing became less rapid, mucus increased, the skin assumed a dusky leaden hue, and as death took place frothy fluid flowed from his nostrils and mouth.

Case 3 occurred on the evening of the 10th August. The patient was a stoker on board a ship in port. The case was much the same as those described, only death did not take place until three or four hours from the commencement of the attack. When brought to hospital he was quite unconscious, breathing stertorously, and his temperature in the axilla was 110° F. By the application of ice, bath, etc., his temperature was reduced to under 105° F., but

with no improvement in general condition; and he gradually sank and died like those above described.

These three cases are given somewhat in detail with the object of showing that what has been called siriasis is met with in Hankow, 600 miles up the Yangtze. The Yangtze Valley might therefore be included in the list of endemic areas of this disease. I was told by our Chinese assistant at hospital that during the same week many Chinese coolies died in the same way. None of these were brought to hospital, however, and I did not see any of them myself.

In addition to the cases described above, three other foreign patients died in Hankow during the month of August, death being due in each case to causes associated with high atmospheric temperature, and all to be classed under the general term "heatstroke."

Subjoined is an extract from the Customs meteorological tables, giving the thermometric readings for each day in August 1900:—

Day of Month.	Thermometer.				Day of Month.	Thermometer.				Day of Month.	Thermometer.			
	Dry Bulb.	Damp Bulb.	Max.	Min.		Dry Bulb.	Damp Bulb.	Max.	Min.		Dry Bulb.	Damp Bulb.	Max.	Min.
1	82	81	95	71	12	94	92	102	85	22	84	81	93	73
2	89	89	95	76	13	95	90	100	84	23	87	80	95	74
3	92	90	96	79	14	96	92	101	85	24	83	76	95	74
4	93	92	98	82	15	95	90	102	85	25	85	76	96	72
5	88	87	99	84	16	96	92	101	84	26	86	74	96	71
6	88	85	93	80	17	92	86	100	85	27	87	74	96	71
7	93	89	98	80	18	97	86	102	84	28	84	74	95	70
8	90	86	101	81	19	88	81	100	78	29	81	77	90	73
9	95	90	100	79	20	84	72	97	74	30	92	85	93	75
10	98	91	102	93	21	85	77	92	74	31	95	83	96	79
11	99	90	102	85										

Total rainfall during the month: 0.5 inch; hours 3.

Diseases of Abdominal Organs.

Of the minor bowel disorders it is unnecessary to enter into details. Entozoa and the milder forms of ptomaine poisoning are frequent. Of *Entozoa*, by far the most frequent (almost the only form met with among Chinese patients) is ascaris lumbricoides. Enough has been written about them—the manifold symptoms they give rise to, their occasional migrations, and their treatment by santonin. In Chinese patients in hospital we have frequently seen them escape through abscesses in the groin or in Scarpa's triangle; once, through a sinus in the back which led down towards the lower end of the kidney on the right side; and once into the bladder, in a female patient, when symptoms of the most alarming character were set up, to disappear again immediately on the worm being expelled through the urethra. During the summer and autumn months symptoms of acute and subacute dysentery are very common concomitants of lumbricoides; so that in the dispensary department of the hospital for Chinese, a preliminary dose of castor oil and santonin is almost invariably given to patients who at this season present themselves with symptoms of dysentery. In the great majority of such cases

nothing further is required, as the dysenteric symptoms subside on the expulsion of the worms. In this connexion I may say that on three occasions, in foreign patients, I have seen a mild form of dysentery follow the exhibition of santonin for worms—twice when no worms were passed, and once when one only came away. The dysenteric symptoms in these cases may have been due to the irritating effects of the drug itself, may have been merely coincidence, or may have been due to the struggles of lumbricoides—for even in the cases where none were passed, it is by no means certain that none were present in the bowel. Microscopic examination of the stools for ova might have settled this point.

In foreign children here, I have seen, though rarely, the common thread-worm (Oxyuris). In adults from Northern Asia I have frequently seen Tænia mediocanellata, and in Japanese patients also Tænia solium; while in examining fæces for the ova of round worms I have come across those of Trichocephalus dispar. For Tænia, the plan of treatment recommended by DAVIDSON in his text-book of tropical diseases, viz., of giving three doses of the liquid extract of male fern of ½ drachm each at intervals of half an hour, the third dose being accompanied by a purgative (5 grains of calomel), has in every case been successful in expelling the head. Mild starvation during the previous day, a dose of castor oil overnight, and a copious soap and water enema in the morning, just before administering the remedy, renders the search for the head by no means troublesome or disagreeable.

Cholera nostras is common among the Chinese, and occasionally attacks foreigners also during the summer months—due to indiscretions in diet, chiefly from eating raw fruit or raw vegetables. Water melons as sold in the Chinese streets—cut up in slices, exposed, and covered with flies—must be a common cause among the Chinese coolies, who buy and eat what the flies leave.

True Cholera has not visited Hankow for several years. As mentioned in a former Report, it, together with typhus fever, visited this port after the Chino-Japanese war, being probably introduced by disbanded soldiers from the North. Happily, it now seems to have died out.

Dysentery.—Regularly, towards the end of the hot weather and the beginning of autumn, cases of dysentery occur in the Concession. As a rule the cases are not severe, and usually yield readily to treatment. In all, strict rest in bed is enjoined, while hot fomentations or turpentine stupes are applied over the whole abdomen and well round the loins. Beef steaks are generally ordered for the patient to chew—to swallow the juice and pulp, but to reject the tougher fibrous part. When, at the commencement, palpation and percussion show the bowel to be more or less loaded, the medicinal treatment selected is usually the sulphate of soda combined with a little belladonna and spirits of chloroform. In some severe cases the ipecacuanha treatment (the powdered root) has acted like a charm. Under Entozoa I have already referred to the treatment of dysenteric symptoms in Chinese dispensary patients by castor oil and santonin.

Several cases of chronic dysentery have made good recoveries after about a fortnight's treatment with sulphate of soda or Carlsbad given in drachm doses (in warm solution), in the morning, every half-hour, until five or six doses have been taken, and followed, at noon, in the

evening, and at bedtime, with 10-grain doses of salol. During the treatment the patients were kept strictly in bed and dieted. All came from a distance, and the influence of change must not be overlooked. Two cases had had dysentery for eight months. In each case the attack began acutely and passed into a chronic form, with two or three stools per day, and these invariably accompanied by the passage of mucus and blood. The fæcal part of the stool was dark in colour, had an offensive odour, and was mixed with undigested food. In both cases there was considerable bodily wasting and feebleness. One was treated with sulphate of soda and the other with Carlsbad. Both did equally well, and left hospital about the end of three weeks feeling well and apparently cured. One I saw a year later; he had had no recurrence and was perfectly well. The other I have not heard of since he left hospital.

Two cases with dysenteric symptoms deserve notice on account of the peculiar form of parasites found in the stools.

Case 1.—An adult male; had been suffering from diarrhœa for some days before dysenteric symptoms of a subacute character set in. Besides mucus and blood, numerous white bodies, shorter and thicker than the ordinary Oxyuris, were found wriggling in the freshly-passed stools. The microscope showed those to be the larval forms of some insect. After castor oil and several doses of salol the patient speedily recovered.

Case 2 occurred in a male child, between 3 and 4 years of age. The symptoms, to begin with, were those of acute catarrhal dysentery high up in the bowel. In spite of treatment, these symptoms continued in a less acute form, but with acute exacerbations, for upwards of two months. My object in mentioning the case, however, is to note that on examination with the microscope groups of small bodies were found in abundance in the mucus portion of the stool. Figs. 1, 2, and 3 show the appearances in different focal planes as seen under objective 7 with eye-piece 2 (LEITZ). They are from 35 to 40 mm. in diameter (about five times the diameter of an ordinary red blood corpuscle, or a very little larger than the ova of Tænia solium). Their shape is not quite spherical, one of the would-be hemispheres being pyramidal, and from the apex of the pyramid three lines or slits are seen to radiate, as in Fig. 1 *a* and *b*. The capsule, or shell, is fairly thick, with an outer portion of honeycomb pattern and of a yellowish colour. Selecting one with the apex pointing upwards towards the cover-glass, and focussing it in different planes from above downwards, the appearances seen are, first as in Fig. 1 *b*, where the radial lines or slits stand out clearly; next as in Fig. 2, where a nucleus or yolk is seen slightly pinkish in colour; and lastly as in Fig. 3, where the honeycomb pattern of the further shell-wall comes into view. These bodies have all the appearances of ova, the

Fig. 1.

Fig. 2.

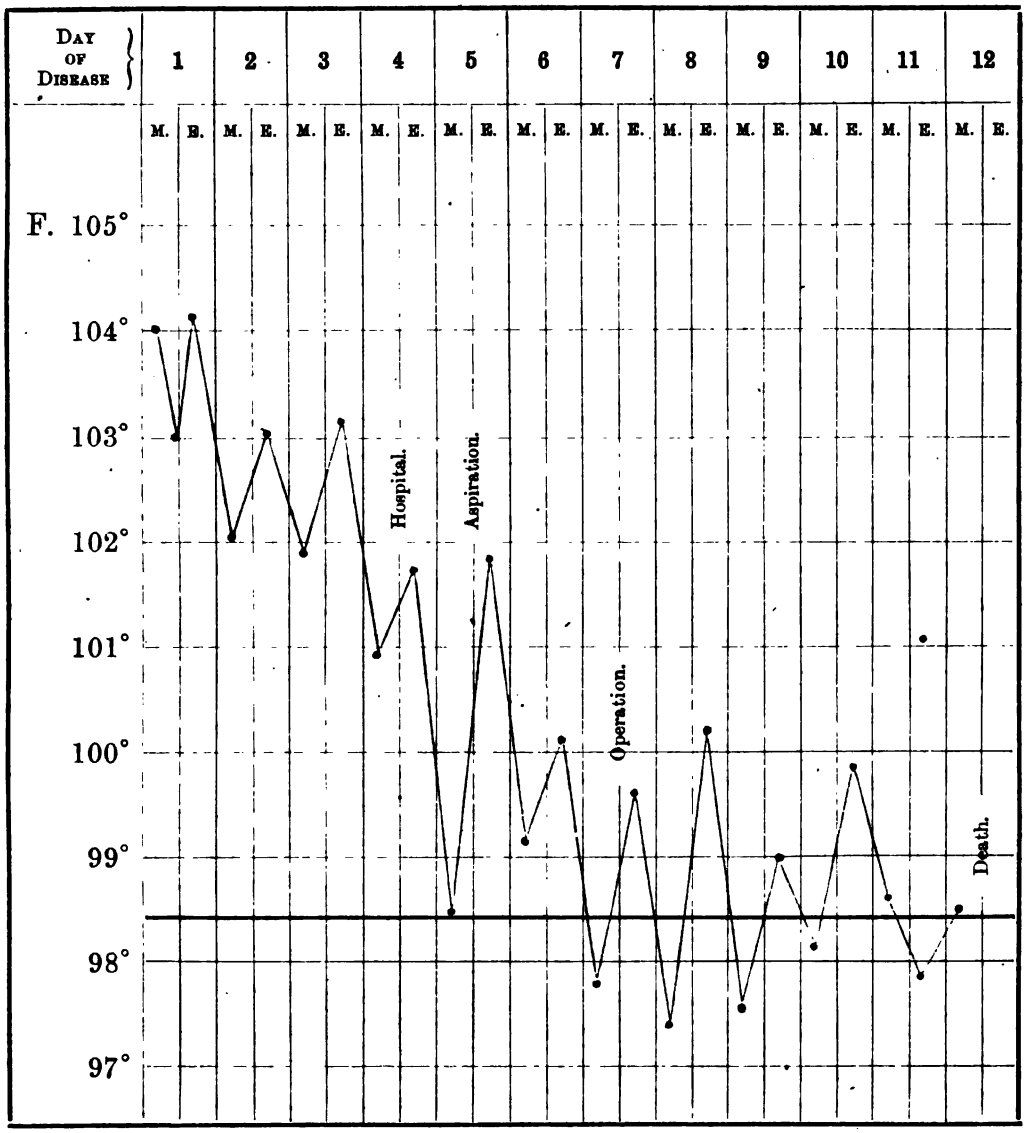
Fig. 3.

radial slits being analogous to the operculum of certain other ova. In none of the literature at my command could I find a clue to their origin; and the above particulars are now given

in the hope that they may be identified. Among other drugs, thymol was given; but nothing corresponding to an adult worm was ever seen. In addition to these bodies, which were repeatedly seen in great numbers, I noted others of a different kind; but as the specimens of these latter have quite spoiled, I can only say from memory that they were spherical bodies, apparently homogeneous and smooth, except for long conical spikes sticking out from the surface, three or four in number. These were seen in one or two specimens only of the clearer mucus portions of the stool. Having failed with the ordinary anti-dysenteric remedies and with anthelmintics to effect any permanent improvement in this case, I tried "Peter Sys's Specific." This was followed by speedy improvement, ending in complete recovery.

Case of Acute Dysentery with Concurrent Abscess of the Liver, and Fatal Hæmorrhage from the Bowel.—The patient was sent to hospital here by his medical attendant suffering from severe acute dysentery, enlargement and tenderness of liver, and fever. He had been sick for six or seven days only, but was extremely weak and collapsed on admission. Taking into consideration the short period of illness, the urgency of the dysenteric symptoms, and the patient's enfeebled state, operative interference was deemed inadvisable. An improvement in his general condition was noticeable after two days treatment; and just as we entertained hopes for his recovery, a sudden profuse hæmorrhage took place from the bowels. This recurred five or six times, despite our efforts to arrest it—about a pint of thick clotted blood coming away on each occasion,—and resulted in death. The portal system was quite emptied, the bowels exsanguine, numerous large ulcers were found in the cæcum and ascending colon, and a large abscess, still intact, in the liver. The patient had arrived from Europe only three months previously and had worked hard all the summer. This was his first sickness. A point of interest, apart from the very acute character of the dysentery and the profuse portal hæmorrhage, was the rapidity with which the liver abscess must have formed.

Case of apparently Mild Dysentery followed by Gangrene of the Liver.—I saw this case for the first time in hospital. He had a history of jaundice three years previous to this, when in Ceylon, and was on the point of being invalided home when he recovered. The surgeon who was attending him for his present illness said that about two weeks before he was sent to hospital he had had a mild attack of dysentery, from which he apparently completely recovered within a few days, passing normal stools after two days illness. Not many days after this, while playing tennis, he was suddenly seized with acute pain in his right side, which caused him to leave off playing and to lie down on a long chair. That same night, while on duty and exposed to stormy weather, he had a rigor, which was followed by a temperature of 104° F. The accompanying chart gives his temperature from this time onwards. He became flushed and restless; had a disinclination for food; complained of headache and of pain in the right side and in the right shoulder. The liver was very tender all over to percussion and to palpation. No enlargement could at this time be detected. His stools were liquid, dark brown, and bilious, but contained neither blood nor mucus. The abdomen was slightly tympanitic, but nowhere tender on palpation. On the fourth day he became delirious for an hour or two, and it was on this day that he was admitted to hospital. On the following day the aspirating cannula was introduced in one or two directions, but no pus was found. Only a small piece of evil-smelling slough was brought out in the cannula; and


Day of Disease
1
2
3
4
5
6
7
8
9
10
11
12
M.
E.
F. 105°
104°
103°
102°
101°
100°
99°
98°
97°
Hospital.
Aspiration.
Operation.
Death.

we decided to wait, in the hope of the slough breaking down into pus. Two days later, dulness having extended upwards very considerably, the aspirator was again used, and putrid serum came away. An incision was now made down to the liver. A large quantity of evil-smelling, hazy, slightly blood-stained serum at once flowed from the wound. The forefinger introduced into the wound sank with very little effort into soft, friable, sloughy liver substance. Some of this material was removed along with the serum, a tube was introduced, and the cavity was douched with warm chinosol lotion until the returning fluid no longer smelled putrid. After the operation the patient remained quite free from pain in the side. The putrid smell was kept under by douching with chinosol solution twice daily. After five days of low fever, drenching sweats, and nausea, the patient succumbed—death being preceded by uncontrollable hiccough terminating in the vomiting of large quantities of grass-green fluid of creamy consistence. At the autopsy, the right lobe of the liver was found to be much enlarged, and from one-half to two-thirds of its bulk was a gangrenous mass, with a spreading boundary showing as an irregular, reddish band on the surface between it and the healthier portion, which, however, near its under surface, contained a putrid, sloughy abscess separated by a thin partition from the advancing gangrene. A putrid thrombus filled the right branch of the portal vein. At the junction of the right and left lobes, above and behind the gall-bladder, was an old encysted abscess, about the size of a walnut, containing greyish yellow, sweet-smelling pus. Between the liver and the diaphragm was a large, smooth-walled cavity, completely shut off; and in the substance of the diaphragm itself were three sloughy abscesses like flattened gooseberries. The stomach was enormously dilated, and filled with the same sort of grass-green material as had been vomited before death. There were numerous ulcers with diphtheritic, washleather-looking bases in the cæcum and ascending colon, from $\frac{1}{8}$ inch to $1\frac{1}{2}$ and 2 inches in diameter, the three largest ones being situated in the ascending colon, near its junction with the cæcum.

Reviewing the facts of this case—

(1.) It would appear (*a.*) that the encysted abscess probably dated from the time when he was about to be invalided home from Ceylon in 1896, and in its active state, on account of its position, was the cause of the jaundice from which he then suffered; and further, that this illustrates the fact that a small abscess of the liver that has become quiescent and encysted is compatible with an active life; (*b.*) that the cure of the dysentery at the beginning of the present illness was also only apparent; and that extensive ulceration of the bowel may exist with little or no local symptom or sign.

(2.) As the liver tissue has its nourishment supplied by the hepatic artery, it is to be regretted that at the autopsy the branch of the hepatic artery going to the right lobe in this case was not searched for and examined. There could scarcely have been sufficient pressure at the hilum to compress the artery so as to obliterate its lumen; and if a clot had been found, it would in all probability have been a thrombus near the hilum formed by extension of inflammation from the portal vein, by which channel the poison must

originally have been carried. It is also conceivable that from the portal thrombus small poisonous emboli have been thrown off in such numbers as to cause stasis backwards from the distal side, and the sudden pain coming on whilst enjoying a game of tennis may have been due to some such shedding of emboli and consequent interference with the circulation in the part.

Abscess of Liver.

During the past two years we have treated eight cases of abscess of the liver, of which five recovered and three died. Of these eight, only two occurred in Hankow residents; the others were in persons residing further up river who came to Hankow for treatment. Three of these were Roman Catholic missionaries from Ichang, one was a blue-jacket from Ichang, one a Customs official from Shasi, and another a Customs official from Yochow. Of the eight, five gave a history of dysentery, while three said they had frequently had attacks of "diarrhœa" but never dysentery. Classified with reference to the alcoholic habit, four were alcoholics and four most certainly were not. Thus far the balance seems even; but, be it noted, all the fatal cases belonged to the first of these classes.

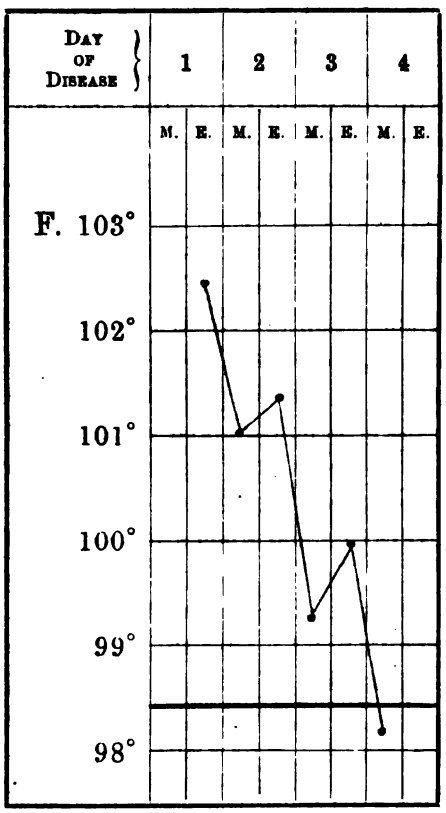
In only one of the eight cases had we difficulty in localising the abscess; in it several attempts with the aspirator failed to strike pus. Before an abscess which was situated high up in the convexity of the liver was found, opened, and drained, symptoms of peritonitis had already set in; and the operation was undertaken as a last hope. From the beginning of the illness there had been considerable tympanitis, also tenderness over the cæcum and in the pit of the stomach. Hiccough was troublesome. The abscess that was opened drained well. There was no autopsy; so the condition of the bowel was not ascertained, and the question of multiple abscess was left unsettled.

Of the remaining two fatal cases, one was multiple, and the other occurred in a patient who was at the same time suffering from delirium tremens. This last case was interesting in that he developed marked bronzing of the skin before operation; and at the autopsy this was shown to be due to infiltration of the right supra-renal capsule with pus. The abscess, too, was enormous, but was not accompanied by any pronounced enlargement of the liver.

In only one case (the last operated on) was there any marked bulging of the liver beyond the costal margin. In this case the patient arrived in Hankow with the liver border down to about 2 inches from the umbilicus and the whole liver bulging considerably. He was operated on at once; and the material discharged was of a dark chocolate colour, thick and almost semi-solid in part. Though the quantity was not actually measured at the time, yet, judging from the vessels filled, it could not have been far short of 2 pints; and for some time afterwards from 2 to 3 ounces either escaped or were aspirated through the tube (being sometimes too thick to flow) by means of an Allen's pump twice daily. Though the cavity in this case took nine weeks to heal completely, and though for a long time after the operation the patient's temperature ran from normal in the morning to 102° F. in the evening, he is now perfectly well.

Taking the remaining cases together, some came to Hankow never suspecting that the seat of trouble was in the liver. In coming to a diagnosis, it is often a case of first suspecting, then eliciting hidden signs. In any case of illness where diagnosis is uncertain, it does the patient no harm to suspect every organ and system in turn during the course of examination. In the case of the liver, besides mapping it out in the ordinary way by percussion and by palpation, compression may give a clue; and if one then goes over the whole of the surface in contact with the thoracic wall by systematically pressing with one hand the terminal phalanx of the forefinger of the other into each interspace at close intervals along its length, it will generally be found that, if an abscess be present, a characteristic liver pain (sometimes accompanied also by a pain in the right shoulder) will be elicited at the moment when pressure at a certain spot reaches a certain depth. If this pain can be elicited at more points than one, then by noting the point of greatest intensity and the depth at which pressure calls forth the pain, one is in a fair way to localise the abscess; and an aspirating cannula introduced in the proper direction and to the necessary depth at this spot will usually strike pus. As an aspirator, I have always used "Allen's pump," choosing for exploratory purposes the long trocar and cannula that go with that apparatus. Before proceeding to explore, everything necessary for opening and draining the abscess as soon as found is prepared. If the patient is weak or inclined to be nervous, he need not be taken from bed. A good light may be thrown on one side, and the operator may kneel by that side of the bed. Besides dressings, binder, pins, the usual basins, antiseptic lotion, and the necessaries for cleansing and rendering aseptic the site of operation and all that may directly or indirectly come in contact with the wound, the only instruments I have required, in addition to the aspirator, are a scalpel, a tenotome, a long sinus forceps, a stout rubber drainage tube with no side openings and in diameter not less than the forefinger, and an ordinary polypus forceps to grasp the end, stretch, and guide the tube into position. (The tube is stretched over the forceps beforehand, and retained thus ready to be introduced.) The patient having been anæsthetised and the necessary measures to ensure asepsis having been taken, the trocar and cannula are pushed so as just to clear the upper border of the rib, at the spot and in the direction previously determined upon. The sense of no resistance generally tells when the point has entered an abscess cavity; and when the trocar is withdrawn and pus is brought to light through the cannula, the skin is tightened and somewhat drawn down while an incision about 2 inches long, with its centre at the trocar puncture, is made through skin and fascia down to the rib at one stroke. The skin is now allowed to resile and the intercostal muscles are divided along the upper border of the rib the whole length of the incision. If the cannula has been withdrawn while the incision was being made, it is now reintroduced through the middle of the wound into the abscess cavity, and when a little pus has been again brought to light to ensure that the cannula is well within the cavity, a tenotome is passed along by the side of the cannula, and with it the liver capsule and the structures over it (diaphragm, etc.) are notched. Into the notch thus made the point of a long sinus forceps is introduced and pushed along by the side of the cannula well into the abscess. As the blades are opened the forceps is slightly withdrawn, thus enlarging the outlet and obviating the danger (should there be any) of pushing the liver from the thoracic wall and allowing pus to escape between the two. When the blades have been thus opened, pus flows freely from the

wound; and when a fair quantity has escaped, the forefinger is introduced, chiefly to ascertain the direction in which the tube ought to go, but at the same time to note the approximate size of the cavity, the character of its walls, and anything else there may be to note. In one case, for example, I felt thickish bands of tissue stretching across the cavity. These probably contained still intact vessels, which, if torn across, might have led to serious hæmorrhage. They were gently dealt with at the time, and carefully avoided when the drainage tube was being introduced. As the forefinger is being withdrawn, the drainage tube stretched on the polypus forceps is gently guided in the known direction to the furthest side of the cavity, and is then allowed to retract from its outer end before the blades of the forceps are opened and its inner end set free. After pus has ceased to flow, dressings are applied, the tube being secured by a large safety pin. The after-treatment in most cases consists in simply cleansing the skin and renewing the dressings once or twice daily, according to the amount of discharge. Should the tube get blocked, it is easily freed by means of a glass tube attached to an Allen's pump pushed along its lumen. Should the discharge at first be very copious or very thick, so as not to flow easily, the cavity can also in this way be emptied at each dressing, if necessary. While the necessity very seldom arises, there would be no harm later on in carefully douching with a weak, warm chinosol solution. In all my cases I have opened between ribs (at the spot indicated in localisation); and I have not yet seen any necessity either for metal drainage tubes or for removal of part of a rib.



JAUNDICE.

During the months of October and November of the present year many cases of jaundice occurred both among Europeans and Chinese here. So prevalent has it been that one must suppose some infective influence at work. In most of the cases, at all events among foreigners, there has been either actual pain or a sense of pressure and aching over the pit of the stomach (and in one case over the liver also), or a sense of constriction round the body in that region. Nausea during the first few days, with complete loss of appetite for a somewhat longer period, was common. In only one or two cases was fever observed. The accompanying chart shows the run of the temperature in one of these cases. In others the temperature was mostly subnormal throughout. In a few, irritation of the skin was the most troublesome and annoying symptom. One patient called me to see him simply on account of skin irritation and a measly rash. He thought, in fact, that he was suffering from measles, though at the time his conjunctivæ were already yellowish and his urine quite dark in colour. Fine desquamation of epithelium followed in this case.

In all, darkening of the urine was among the earliest signs, then yellowness of the conjunctivæ and skin, and clay-white stools. The depth of colouration of conjunctivæ and skin varied considerably—from light lemon-yellow to golden or greenish yellow. The duration of the attack was from two to three weeks, though, generally, colour began to return to the stools about the 10th day, and the patients felt well from this time onwards. Treatment consisted for the most part in keeping the patient warm, in dieting, and in giving Carlsbad in warm solution in the morning and a few doses of phosphate of soda throughout the day. In those cases where irritation of the skin was marked, it quickly disappeared after a few doses of phosphate of soda.

Though I can find no direct allusion to the subject, the prognosis in any case of severe accident or operation in a patient suffering from toxæmic jaundice would appear to be very grave indeed. During the above-mentioned epidemic, a coolie, while suffering from an attack, had his leg badly crushed and mangled by the wheels of a heavy waggon run on rails passing over it. He was brought to hospital in an exhausted condition from shock and loss of blood. The quilt in which he was carried was soaked with blood. Amputation had to be performed just below the knee. When cut into, the subcutaneous tissues and the intermuscular septa were more or less œdematous with bile or bile-stained serum. Though the patient had already lost much blood, oozing from the flaps was very difficult to stop. Next day the patient, in place of being restless from loss of blood, was drowsy and stupid; the dressings were soaked with dirty, greenish yellow, and blood-stained serum; and the amputation flaps were distended by a huge, firm, black clot. It, and the patient's body as a whole, had a sickly, cadaveric odour. The clot was cleared away, and the flaps were compressed by a bandage with pressure pads under it firmly and evenly applied. By next morning dirty, greenish, partly blood-stained serum had again soaked through the dressings. The sickly, cadaveric odour mentioned above pervaded the patient's neighbourhood. Stupor had overcome him; and towards evening he succumbed. The flaps, though stained almost black by the colouring matter of the altered blood and roughened with adhering bits of black clot, had no putrid smell, only that sickly, cadaveric odour already twice referred to.

Cancer of Penis in Chinese Hospital Patients.

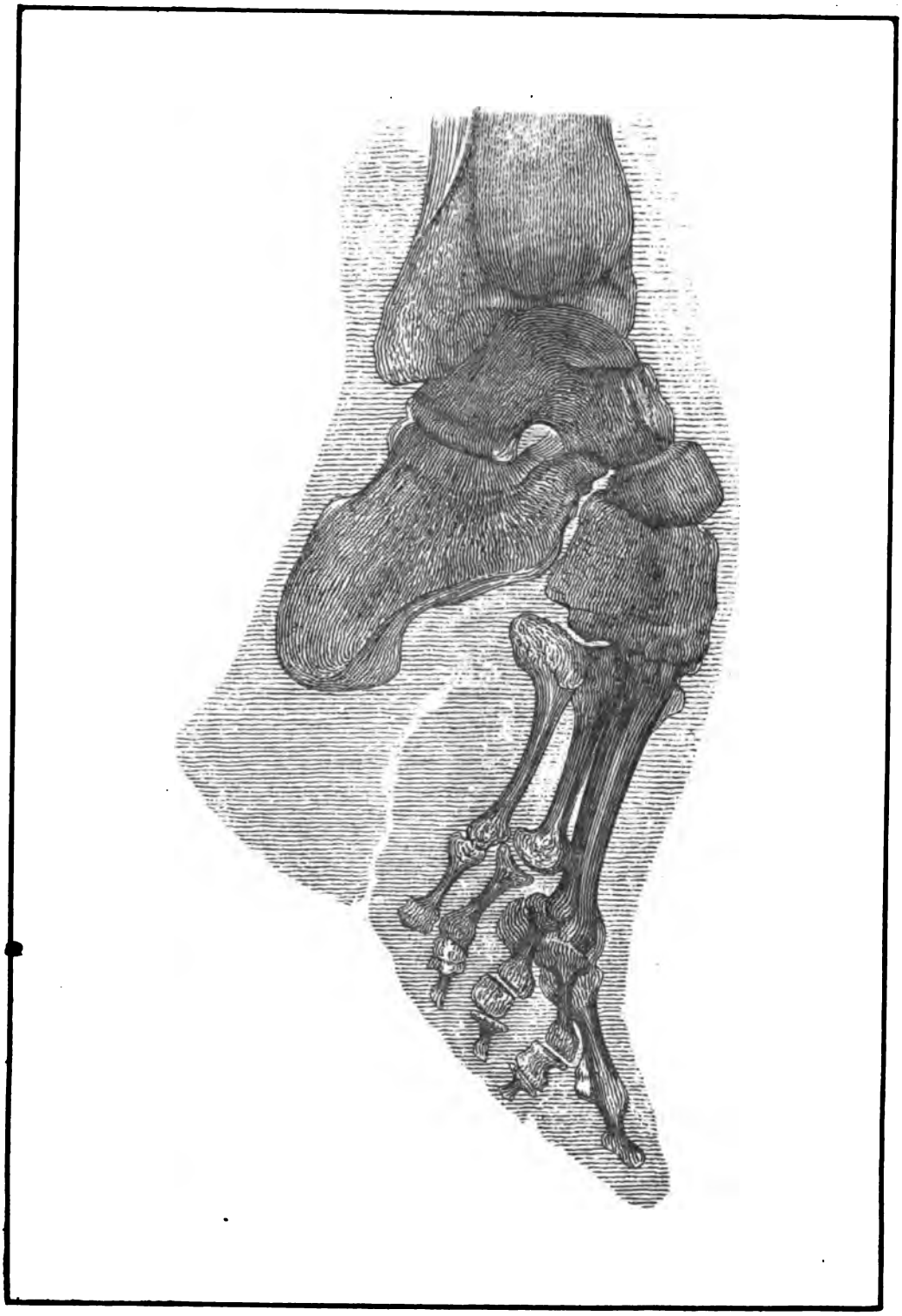
I select this class from among our surgical cases in the hospital for Chinese under my charge because of its frequency in hospitals in China when compared to similar institutions at home, and because some remarks on the surgical treatment of this condition may not be out of place here.

Eleven years ago I tried in turn the ordinary operations described in surgical text-books, viz.: (*a.*) amputation at the root by flap method where the condition allowed of this; (*b.*) shaving the tightened penis clean off at the root and bringing the stump (divided corpora and urethra) out through a median perineal incision previously made; and (*c.*) by splitting the scrotum—the reverse of an improvement on (*b.*).

Very early, however, I abandoned all these methods for the operation soon to be described. The first idea of this operation I got from my late partner, Dr. Charles Begg. The scrotum,

he maintained, after the penis had been out short, was only a source of annoyance to the class of patient we had to deal with. In summer more especially, when lax and liable to get chafed, it was very apt to become excoriated and inflamed by last drops of urine trickling over it; and in the case of the working coolie, this might go on to such an extent as to incapacitate him from work and from earning his daily rice. Dr. BEGG therefore recommended to make "a clean sweep," to remove scrotum and testicles together with the penis. Since March 1894 (the date of my return to China from a holiday at home) I have operated in this way in altogether 30 cases. The operation itself, as I perform it, is simple; has never been attended with the slightest degree of shock or with any untoward result whatsoever; gives great freedom; and I would further add that, if there is anything in the assertion that inoperable cases of cancer of the breast in women are benefited and the growth kept in check by removal of the ovaries, it is reasonable to hope that in the cases here dealt with the removal of the testicles may have some effect in lessening the chances of recurrence, or of delaying growth in glands within the abdomen, should any such already contain the germ of the disease. I am sorry I can give no statistics as to freedom from recurrence, because cases, once they leave hospital, seldom report themselves. All I can say is that no case has come back showing recurrence; and I may judge from this, as well as from the free removal of neighbouring tissue and direct channels (inguinal glands, etc.) practised at the time of operation, that local recurrence, at all events, has been rare.

Description of Operation.—The parts having been previously shaven and disinfected, the first step in the actual operation is to secure the penis behind the disease by a strong, tightly-drawn, temporary ligature, and to sweep away the foul, cauliflower-form mass in front of this ligature. On account of the liability of the corpora to retract within the sheath, it will be well to secure them with cross pins or otherwise before they are divided. Having got rid of the cancerous mass, there is more freedom to work, and less danger of fouling or infecting the wound in the subsequent steps of the operation. The parts are again disinfected; and now the inguinal glands and lymphatic-bearing tissue on both sides are removed; the cords are secured and divided; and the groin incisions necessary for these procedures are joined above the root of the penis well free of the disease, the incision being here carried through the suspensory ligament kept tight by dragging on the stump of the penis. The dorsal arteries are in the meantime either avoided, or, if cut, are secured by artery forceps and ligatured. Any other vessels divided previous to this are also easily caught up and ligatured. The cords I have never found to give trouble. Though I have been in the habit of clamping them with an ordinary bone-faced pile clamp and using the cautery, they may, of course, be cut across and the vessels secured by ligature in the ordinary way. Their stumps lie snugly at or within the external openings of the inguinal canals. To proceed: the scrotum is now lifted up, and somewhere near its junction with the perinæum a point in the middle line where the corpus spongiosum containing the urethra will lie evenly and naturally is marked; and from the cross incision to this point the skin and underlying tissues, first on one side and then on the other, are evenly divided by scissors (if possible by one sweep for each side), leaving flaps that, in conjunction with the upper (pubic) flap, will meet without tension either in the form of a Y or a T, or something between, as the



APPENDIX A.

case may be (*i.e.*, as the disease admits of the pubic or of the side flaps being the larger). Bleeding points are easily secured; and now the freed scrotum is held up or clipped away, while the corpus spongiosum is divided transversely behind the temporary ligature spoken of at the beginning and is carefully dissected from the corpora cavernosa. This process is greatly facilitated by passing a metal bougie or sound into the urethra, and by means of it putting the tissues between the corpus spongiosum and the corpora cavernosa on the stretch while the cutting edge of the scalpel is inclined towards the corpora cavernosa. Once a certain distance back, separation is very easy. This done, a blunt instrument—closed scissors answer well—is pushed from below upwards between the crura, to separate and allow the finger to get in between them. The dorsal vessels are now secured; and if the arteries entering the crura are also tied, the crura may be torn from their attachments to the arch of the pubes, but it is easier to ligature the crura as closely as possible to the arch and to divide them beyond the ligatures. Everything has now been removed except the corpus spongiosum containing the urethra, and it has been left sufficiently long to project well from the lower angle of the wound. Should there be bleeding from the cut end of the corpus spongiosum, the mucous membrane of the urethra may be stitched to the capsule; but this is not always necessary. The flaps meet and are sewn together in something of a T or Y shape. No drainage tube is required. All is firmly healed by first intention. The whole area is smooth and clean; the urethra projects at the lower angle of the perpendicular limb of the wound, and urine can be passed freely in the usual way in the erect position.

Appendix A.

This is a reproduction of a skiagram of the Chinese woman's "small foot." It represents the foot of a young woman, with the boot on and the bandages in place, taken with the outer (fibular) side next the plate.

Appendix B.

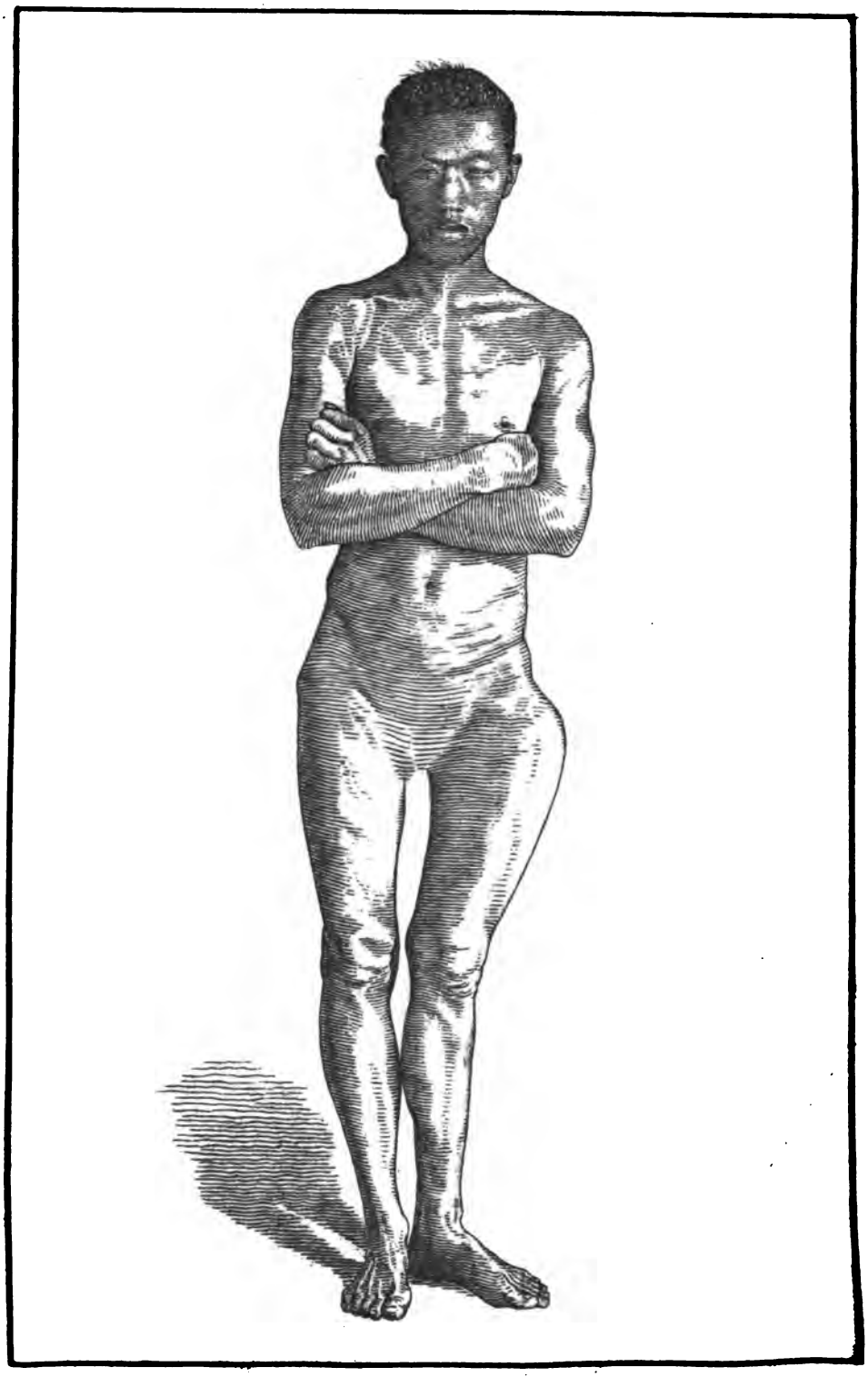
This is an interesting case of acquired curvature with thickening of the upper end of the femur, brought by Dr. Gillison, of the London Mission, for examination by the X rays. The following notes are from Dr. Gillison's statement of the case.

The patient, a farmer, aged 21 years, states that two and a half years ago, while working in a paddy field, he felt pain in his left hip and thigh, and this he considers was the beginning of his troubles. At that time he says that his left thigh was perfectly straight and that there was nothing to be seen in it different from his other thigh. Pain continued for some months; the thigh felt weak; but it was not until later that the patient noticed a hard swelling at the site where the bend now is. The swelling gradually increased, while pain got worse, and

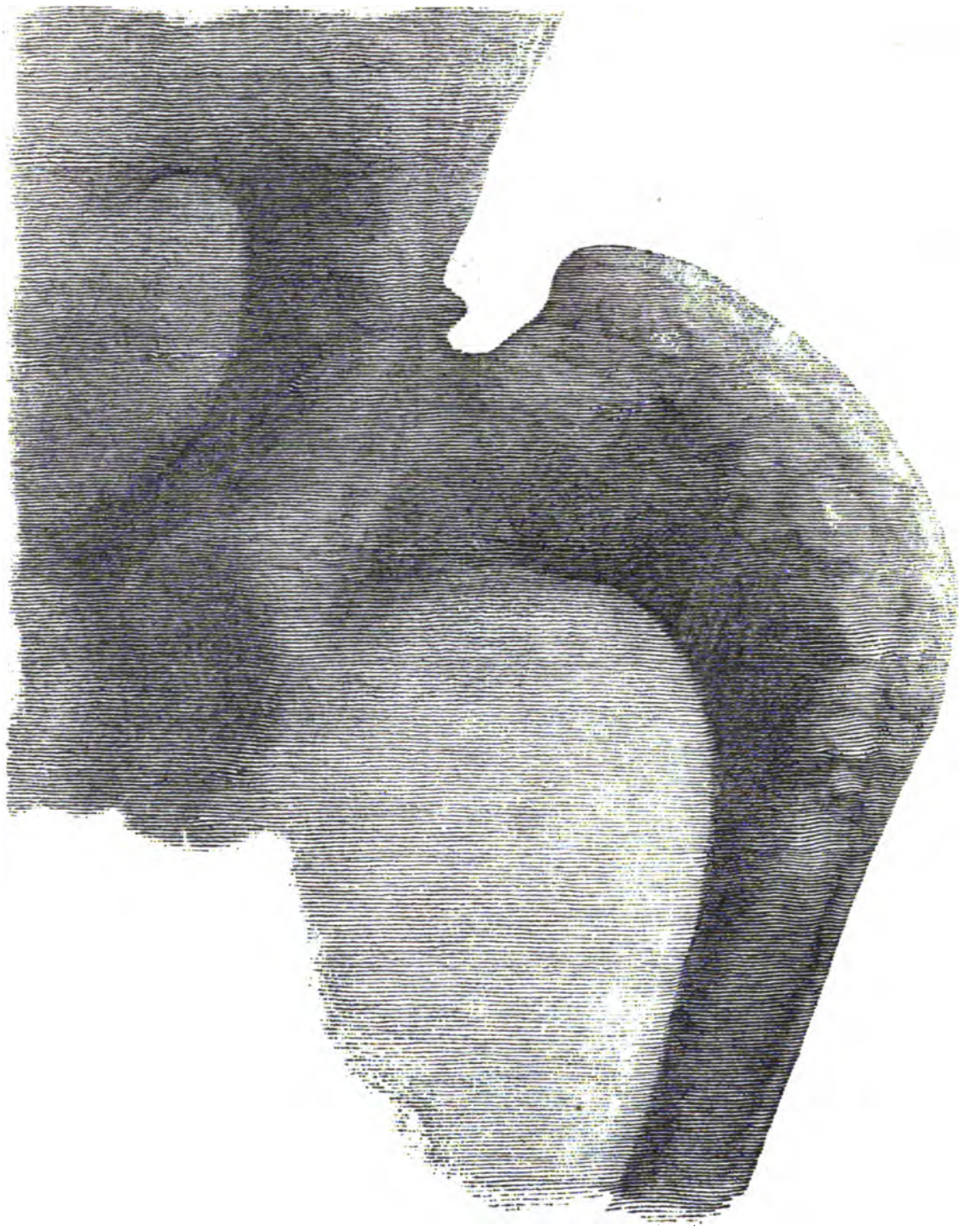
by degrees disabled him from work in the field. At present he is unable to carry any sort of load. He has pain when he attempts to carry, or when he walks much, but none when in bed at night. The appended reproductions of photograph and skiagram show most that remains to be said. Though the apparent shortening is about 3 inches, the measurement from the tip of the trochanter following the curve along the axis of the bone to the knee is about the same as from the tip of the trochanter to the knee on the sound side. Flexion at the hip is reduced to about half its usual compass, while extension (as seen in the reproduction of photograph) is not interfered with. The skin over the swelling is not red, and does not feel hot. The swelling itself is hard and only slightly tender to strong pressure. The thigh muscles are not wasted. With the exception of chronic enlargement of both tonsils, there was nothing further to note. The patient was otherwise apparently quite healthy.

The reproduction of skiagram shows the thickened, bent part of the femur to be nodulated on the surface, and to consist of dense bone in its inner (concave) portion, which sends a few short trabeculæ into the outer (convex), more transparent, perhaps mostly cartilaginous, portion.

The history of the case points to strain in dragging the limb through heavy paddy ground, and the age of the patient at the time the pain started suggests that the trouble may have begun in epiphysial cartilage—the greater trochanter not uniting until "about the 18th year."



APPENDIX B.



DR. HERBERT J. HICKIN'S REPORT ON THE HEALTH OF NINGPO

For the Half-year ended 30th September 1900.

THE health of the port during the period under review has been good. There have been two births, no deaths, and no epidemics.

While Ningpo is a fairly healthy port compared with other ports in China, yet it cannot be classed as in any sense a health resort. Those whose constitutions are impaired by excesses or previous disease, and those who are careless in guarding themselves against the sun or the variations in temperature, are by no means free from serious disease. The Settlement being situated on a low-lying plain and almost enclosed by the bends of the river, its atmosphere is necessarily damp and enervating.

The following cases are of interest:—

FISH POISONING.

Case 1 occurred in a strong, vigorous man, aged about 30. On 2nd April he wrote as follows:—"Yesterday for dinner I ate too freely of pickled mackerel; all the night I was sick, vomiting constantly, though I ate no supper. This morning I did not want any breakfast, but forced myself to eat about two spoonfuls of porridge; then I took a dose of rhubarb; but the vomiting and sickness and bad headache have continued all day. I had nothing for dinner but a glass of hot water. I had a movement of the bowels early this morning, but none since. Can you tell me what I had better do?" I found the patient with a temperature of 102° F., much prostrated, and with a weak pulse. In the afternoon the temperature rose to 103° F. The tongue was very foul. A soothing mixture containing morphia was prescribed, and followed in 24 hours by two full doses of castor oil.

3rd April.—Temperature kept up all day, but patient was now able to take a little liquid nourishment. He is still very weak.

4th April.—Eruption all over the body of red, papular patches. The papules towards the centre of the patches develop into small bullæ, each containing a clear, yellow fluid. The eruption is intensely itchy.

5th April.—Eruption declining, but still excessively irritable. The temperature keeps declining.

6th April.—Temperature normal.

7th April.—Patient out of doors shooting.

Case 2.—Wife of the above. Primipara; full time pregnant. Has been eating freely of fish for several days. She has complained the last few days of severe itching of the abdomen.

2nd April.—Her husband wrote, saying "the itching is terrible, giving her no rest—an 'agony.'" Boracic ointment had been prescribed, but gave only a very temporary relief. Cocaine in 4 per cent. lotion was now ordered, and gave great relief.

3rd April.—Eruption of raised, red patches all over the abdomen, buttocks, and flexures, spreading to the arms and legs. Dusting powder of starch and zinc oxide ordered. Patient has been carrying out instructions laid down in an American book, the object of which is to render labour painless. The chief principles are to avoid butcher's meat and sugar, and to live on a vegetarian dietary of fruit and vegetables with farinaceous food and milk. Hot baths and graduated exercises are likewise enjoined.

4th April.—Eruption fading. Labour commenced last night. "Show" about 4 A.M. Pains, even of the first stage, very strong all morning and afternoon. At 9.30 P.M., the os being fully dilated and pains strong, the membranes were ruptured. The pains now became terribly intense, and about 11.30 P.M. assistance was summoned and chloroform administered, as rupture of the uterus was feared, the pains having become almost continuous in character. An hour later, the pains, even under chloroform, continuing exceedingly violent—so much so that patient almost threw herself out of bed during their onset,—it was decided to apply forceps. This was done, and the child born without difficulty; but a hand outstretched by the neck caused a long pause before the posterior shoulder could be got through. The perinæum was, however, not ruptured. A large, round tumour at the fundus of the uterus now attracted notice, and at first gave rise to a suspicion of twins; but careful examination elicited the fact that it was a tumour moving freely at the fundus. On palpation it gave exactly the sensation of a limb, and indeed was so diagnosed before the onset of labour.

7th April.—Both mother and child doing well, but difficulty was experienced in getting the child to take to the breast, though the nipples were well drawn out and the supply of milk was abundant. Possibly the quality of the milk was altered and distasteful to the child. The latter was deeply jaundiced, but its conjunctivæ were not very deeply tinged. The bowels were freely moved. An eruption of red, erythematous patches was now observed all over the child's abdomen, and to a less extent on the extremities.

8th April.—Mother's temperature rose to 101° F. Pulse and aspect both good. Milk secretion not arrested. Lochia not arrested or offensive.

9th April.—Lochia very offensive and profuse. Secretion of milk unaltered. Pulse and aspect good. A creolin douche was now given morning and evening.

10th April.—Morning temperature has declined to 99°.8 F., but rose again in the afternoon to 101° F., and two hours later had again fallen to 99°.8 F. Douching still continued. Mother's eruption very irritable again, especially on the parts subject to pressure. The eruption on the extremities has paled in colour, but is still quite visible. Child's jaundice lessening and its eruption nearly gone. From this date both mother and child went on well, and there was nothing further of interest to note.

The eruption on the mother and child may possibly have been due to other accidental causes, and not to fish poisoning; but if so, it was a curious coincidence, and personally I think all three were due to one and the same cause, but probably not to the same dish of fish, as the mother was complaining of irritation a day or two before eating the pickled mackerel which upset the father.

Roseola.

Patient for a week past has been suffering from gastric pain, coming on about three hours after meals, and describes it as a "moving, gnawing pain." For this she treated herself with castor oil and santonin in three successive doses, but without relief. On 12th April a red eruption came out all over the body and limbs, including the face, together with slight feverishness.

13th April.—Eruption to-day is very like measles, but not crescentic. It consists of red spots, fading on pressure and not elevated above the level of the surrounding skin. It occurs copiously all over the arms, legs, trunk, and face. Curiously enough, it comes out on exposure to cold and fades when the body gets hot. There is no headache, fever, nasal catarrh, or suffusion of the conjunctivæ. The throat is slightly sore. On the face there are a few spots of different character from the rest—more like urticaria, being white and elevated, the size about that of a small mosquito bite. The eruption is slightly itchy.

In the course of three or four days the eruption had declined, and there was no visible desquamation of the skin. The same patient had a similar attack just about the same time last year, and had another attack a month or more after the one here described. The causation is obscure. It cannot be traced to errors in diet or exposure to cold, as the last attack occurred in hot weather.

Rupture of Muscular Fibres in the Calf of the Leg.

Patient, playing tennis on the afternoon of 30th August, suddenly felt a smart pain in the calf of the leg, and at first thought a tennis ball had struck him. He was unable to walk, and hopped off the ground to a seat. On examination a few minutes later, it was found that the patient could not put his foot to the ground on account of the pain so caused. On inspection there was no trace of redness or sign of local, external injury. On palpation there was acute tenderness and pain about 1½ inches below the centre of the calf, but no separation of muscular fibres could be felt. Rest and cold compresses were ordered. Next day there was slight swelling over the site of injury, but nothing else of note occurred (save gradual diminution of tenderness) till 3rd September, when a slight yellow discolouration was noticed over the calf of the leg and over the inner side of the leg in front. This discolouration was more pronounced the next day, and on 5th September the colour was deep saffron, and there was swelling of the ankle and foot with ecchymosis on either side of the heel. There was no redness or heat, but on the contrary, both leg and foot were cold. Under rest and elevation, together with pressure, the swelling decreased and the discolouration slowly declined. The injury was apparently deeply seated, as

tenderness on deep pressure persisted after the superficial tenderness had ceased. About five weeks elapsed before the patient was able to walk.

I am inclined to think that it was the plantaris muscle that had ruptured, for the following reasons:—

(1.) The injury was deeply seated, as manifested by the tenderness on deep pressure, also probably by the long time that it took for the effusion to work its way to the surface, and by the absence of any external depression to careful palpation.

(2.) Pain was complained of in the popliteal space corresponding in site to the origin of the muscle.

(3.) The situation of the ecchymosis at the heel seemed to suggest conduction down the tendon of the plantaris and its diffusion on either side of the heel.

(4.) The exertion undergone at the time of the injury did not seem violent enough to rupture any muscle but one of very small size.

Frontal Neuralgia and Renal Calculus.

Patient came first under observation complaining of severe brow-ache, so intense as to give him quite a dazed aspect and the expression of a man suffering great pain. On palpation there were no painful spots to be made out over the supraorbital nerves. The headache came on about 9 or 10 o'clock in the morning, and lasted till 4 or 5 o'clock in the afternoon. After an initial treatment with quinine and nerve sedatives without success, knowing the patient had a gouty history, the urine was examined, and abundant crystals of oxalic acid (some of them of very large size) and blood corpuscles were found. Suspicion of calculus being aroused, treatment was changed accordingly, with electricity locally. The headache now speedily gave way, but pain in the back and other symptoms of renal calculus replaced it. After the lapse of a couple more days patient told me his disease had taken on another phase, and that he had been up and down all night, constantly trying to micturate. He was told that the calculus had now passed from the kidney into the bladder, and might be expelled. In the next 24 or 36 hours patient sent me the calculus—a small, very rough fragment, weighing about a grain. After this his symptoms rapidly declined. The patient, however, has been suffering terribly all through the summer and autumn from asthma, to which he is subject, and which probably likewise owes its obstinacy to his gouty diathesis.

DR. RODERICK J. J. MACDONALD'S REPORT ON THE HEALTH OF WUCHOW

For the Year ended 30th September 1900.

THE health of the foreign community has been comparatively good.

Birth and Death.—One male child was born; and one young lady died. She relied on immediate Divine healing, without doctor or medicines. Whilst a refugee at Macao she passed away, the cause of death, as I heard, being Bright's disease.

Residences.—The British Consul and most of the foreign Custom House officers continue to rent and reside in the unsuitable boats which have been already reported upon. A substantial building is rising on the right bank of the Fu River, which is to be the British Consul's office, consular gaol, and constable's house.

Food Supply.—The milk, meat, and water supplies continue in the same unsatisfactory state.

Hospitals.—The Kwong-yan I-un is repaired and more windows have been introduced, effecting considerable improvement. It now lacks modern, rational treatment of disease. Might not this be attained by the appointment of a doctor trained in the Hongkong Medical School? The Wesleyan Mission has nearly completed the first ward of its future hospital, called the "Hart Ward," and intended ultimately for the treatment of foreigners (Custom House officers and others). The small building comprises bedroom, bathroom, sitting-room, south and west verandah; and on the ground floor, kitchen, servants rooms, and store-room.

State of the Town.—The same as when last reported.

Bubonic Plague Epidemic.—The epidemic began in April and ended in August. Sporadic cases continued to occur throughout September. This year the epidemic was even more severe and protracted than last year.

Collective View of Disease.—A table appended furnishes a collective view of ailments among foreigners during the three years from August 1897 to August 1900. From this it appears that April is the most generally unhealthy month for foreigners, and January and February are the healthiest. The summer and autumn seasons are trying.

Seven-tenths of the sickness affects the alimentary, integumentary, and respiratory systems, or is due to zymotic disease. The circulatory, hæmopoietic, urinary, reproductive,

nervous, and locomotory systems are but slightly affected; diseases of the eye and ear are insignificant in amount; and injuries are rare.

The malarial microbe has attacked children and women mostly in the warm season; men, in autumn and winter. Small-pox occurs in December, January, and February. Children's strumous glandular enlargement in winter. Diphtheria in April. Typhoid fever in July. Erysipelas and boils in summer. Ascarides, in children, in summer and autumn; in adults, in summer. Diarrhœa, in children, in spring and autumn; in adults, in summer and winter. Dysentery, in children, in summer and autumn; in men, during winter and spring. Influenza, in children, spring, summer, and autumn; in adults, in spring and autumn. Scarlatina in December.

A similar view of disease among natives includes, in addition, cholera in spring; typhoid fever in February, as well as in summer; bubonic plague in summer (April to September). In summer, also, measles, whooping-cough, acute rheumatism, anthrax, tetanus, and puerperal septicæmia; and malarial fever, epidemic in the æstivo-autumnal season, is endemic all the year round. But more extended observations will probably considerably modify most of these statements.

I have to thank the Harbour Master for the customary meteorological table.

COMPARATIVE VIEW OF DISEASES AMONG FOREIGNERS AT WUCHOW, for Three Years, August 1897 to August 1900.

MONTH.	MEN.	WOMEN.	CHILDREN.
January	Diarrhœa, dysentery, malarial fever.	—	—
February	Neuralgia, malarial fever, small-pox, anthrax.		Intestinal colic.
March	Dysentery, follicular tonsillitis....	Catarrhal pharyngitis, neuralgia, alveolar abscess, influenza.	Influenza.
April	External hæmorrhoids, asthma, eczema, neuralgia, diphtheria, influenza, septic wound.	Jaundice, malarial fever	Diarrhœa, malarial fever.
May	Dental caries, hordeolum, tinea, influenza.		Diarrhœa.
June	Diarrhœa, catarrhal jaundice, acute pleurisy, eczema, furunculus.	Dyspepsia, diarrhœa, otitis	Dysentery, ascarides, catarrhal laryngitis, malarial fever.
July	Ascarides, diarrhœa, furunculus, abscess, muscular rheumatism, malarial nephritis, typhoid fever, bullet wound.	Normal confinement	Erysipelas neonatorum, typhoid fever, malarial fever, boils, bronchitis, influenza.
August	Eczema, ulcer of cornea, malarial fever, lightning stroke.	Anorexia	Erysipelas neonatorum, malarial fever.
September	Malarial fever.	—	—
October	Dyspepsia, follicular tonsillitis, dry pleurisy, malarial fever.	Contagious pemphigus, normal confinement.	Ascarides, irritative diarrhœa.
November	Septicæmia, bronchitis, conjunctivitis, malarial fever, influenza.	Influenza	Influenza, scarlatina, dysentery.
December	Follicular tonsillitis, ischio-rectal abscess, malarial fever.	Small-pox	Strumous glandular enlargement.

Meteorological Table, April to September 1900.

Month.	Thermometer.						Barometer.		Rainfall.	
	Maximum.	Minimum.	Maximum Mean.	Minimum Mean.	Maximum Dry.	Minimum Wet.	Maximum.	Minimum.	No. of Hours.	Quantity.
	° *F.*	° *F.*	° *F.*	° *F.*	° *F.*	° *F.*	*Inches.*	*Inches.*		*Inches.*
April	91	60	80.2	67.7	91	58	30.28	29.75	51	6.69
May	95	63	84.8	72.1	95	65	30.20	29.76	65	4.89
June	91	72	83.7	74.8	91	71	30.05	29.60	71	7.85
July	93	72	89.2	76.8	93	72	30.10	29.73	34	4.23
August	101	73	93.8	77.4	101	70	30.05	29.60	41	3.60
September	95	75	89.8	72.9	95	61	30.18	29.55	27	2.63

DR. J. H. LOWRY'S REPORT ON THE HEALTH OF HOIHOW AND KIUNGCHOW

For the Half-year ended 30th September 1900.

FOREIGN POPULATION.

Male adults	25	Male children	5
Female adults	8	Female children	10

The general health of resident foreigners has been good during the past six months.

There have been two births—both females,—and there has been one death.

The sick list has been small, but a number of residents were absent from the port during the two hottest months—July and August. The exodus of foreigners was brought about by an apprehension that an anti-foreign feeling was growing and that there would be trouble in the district. Happily, it was a false alarm, and in spite of a large influx of people into Hoihow for a great religious festival, quiet and order were maintained.

A member of the Customs staff suffered from repeated attacks of malarial fever, and his continued feeble health necessitated his transfer to a northern port.

A case of carbuncle of the neck in a visitor required treatment. It broke down, and the healing process was slow. The patient also suffered from gout in one foot, and had fever of a remittent type.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS taken at the Custom House, Hoihow (Kiungchow), April to September 1900. (Latitude, 20° 3′ 13″ N.; longitude, 110° 9′ 3″ E.)

Month.	Wind.							Barometer.		Thermometer.		No. of Days Fog.	Rainfall.	
	No. of Days N. to E.	No. of Days E. to S.	No. of Days S. to W.	No. of Days W. to N.	No. of Days Variable.	No. of Days Calm.	Average Hourly Force.	Highest.	Lowest.	Highest.	Lowest.		No. of Days.	Quantity.
								Inches.	*Inches.*	° *F.*	° *F.*	*D. h.*		*Inches.*
April	3	17	7	1	2	...	3	30.38	29.87	93	72	0 12	1	3.24
May	7	9	2	2	11	...	1	30.25	29.90	91	73	...	2	5.56
June	10	10	2	5	3	...	3	30.10	29.75	92	78	...	3	18.17
July	4	20	...	1	6	...	2	30.19	29.90	92	80	...	1	9.08
August	5	10	3	6	7	...	3	30.14	29.38	87	80	...	3	13.05
September	11	5	1	5	8	...	3	30.25	29.72	85	78	...	2	5.14

DR. H. M. McCANDLISS' REPORT ON THE HEALTH OF HOIHOW AND KIUNGCHOW

For the Half-year ended 30th September 1900.

THE plague epidemic was still in progress at the close of the last half-yearly Report, and continued until about the middle of June. Up to the close of the former Report there had been about 2,000 deaths; but at the end of the epidemic the officials estimated a total mortality of 5,700, which would make about 19 per cent. of the population. Probably 15 per cent. would be nearer the mark. In the Rice Street district over half of the population died. This district is one of the cleanest in Hoihow, on account of the open spaces being constantly swept and used to dry the paddy. On the other hand, the abundance of grain causes the district to swarm with rats, vast numbers of which died. This is a strong point in favour of the rat infection theory. In another district there is a cluster of Chinese houses somewhat separated from others. One house in this cluster we call the "dirty" house, because both people and place are so dirty. All the other houses had plague, and in one of the houses not a soul was left living; yet in the dirty house there was not a case. Those who maintain the filth theory will have to face innumerable instances of similar nature; and it is to be feared that, laudable as the Hongkong whitewashing is, unless it is combined with the destruction of rodent life, the measure will fail of eradicating the plague.

During the latter half of the epidemic there were eight cases of plague received into the isolation ward of the hospital. Of the eight cases, seven recovered. No specific treatment was attempted. Windows and doors were kept open, high fever was relieved by sponging, and buboes were poulticed. The worst cases were fed on Nestlé's Food every three hours. In only one case could I be sure of the period of incubation, and that was exactly six days.

No foreigners took the plague. There are no Europeans in Hoihow that live on the ground floor, and I know of no house but what is fairly well ventilated, albeit most of them are still but modified Chinese houses. We rejoice in nine houses that have been built on foreign lines for the accommodation of foreigners; so that there is considerable progress toward the sanitary convenience of the community. About half of these are due to the enterprise and building genius of a British Chinese who has been in the port two or three years.

We were saddened by one death, in the person of a European adult (female), who had suffered from malarial fever in Hongkong and afterwards here. The present attack was ushered in by a fever of 103°.4 F. Twice during the seven days of illness the temperature fell below 103° F., but the general temperature was between 103°.5 F. and 104°.5 F. The distress over liver and kidneys continued even after three days of thick, smoky urine. I would call attention to this point.

(1.) Dr. LOWRY and myself agreed on consultation that it was not a case of plague.

(2.) I have seen, in the southern states of America, many fatal cases of the hæmorrhagic malarial fever at the commencement of the hot stage of which the urine voided contained blood in greater or less quantity, but in such cases there was extreme stupor.

(3.) In the hæmoglobinuric fever recently studied in Central Africa, the voiding of the bloody urine is attended by relief of the pain over the kidneys; but in this case neither that nor any of the remedial measures resulted in relief.

Some high authorities are credited with saying that the hæmoglobinuria in the fever of that name is probably the result of quinine poisoning. In answer to this I would say that every year in this hospital we consume from 100 to 300 ounces of quinine in the treatment of various phases of malarial infection, and I can remember but three cases of hæmoglobinuria, each of which was associated with enormous spleens. This is said with the more confidence inasmuch as there is no avenue of symptoms so closely watched by the Chinese patient as the colour of his urine. In the present case the patient retained possession of her faculties until a few hours before death, during a sickness of seven full days.

In July a number of the foreign residents left the port and spent six or eight weeks in Hongkong. A large house, high up on the hill above the Civil Hospital, was occupied by 14 adults and a number of children and servants. None of these people had been suffering with recent outbreaks of malarial fever. In the few days that I was in the house I found three or four specimens of the Anopheles claviger. This small representation was scarcely sufficient to account for all the large number of inmates, with one or two exceptions, being attacked with a quotidian type of fever, which did not readily yield to quinine. However, there were innumerable little gnats, so small that the eye would scarcely notice them, until a severe itching would compel attention and the little black gnat would be found on some exposed part, but so very mobile that it was difficult to capture or kill. 10 or 20 of these little gnats would be found on the children's bare legs at one time. Those in Hongkong who have good microscopes would do well to study this subject.

I have found the Anopheles under the mosquito curtains of two foreigners in Hoihow who were suffering from malarial fever this summer.

Dr. A. SHARP DEANE'S REPORT ON THE HEALTH OF PAKHOI

For the Half-year ended 30th September 1900.

The six months just past have been uneventful from both a medical and sanitary point of view. A few cases of dysentery and diarrhœa occurred during July and August, but nothing of the nature of an epidemic of these affections prevailed. Remittent fever appeared towards the end of September in the town and neighbouring villages, some of the cases being of a protracted and fatal type.

Plague, as was anticipated at the commencement of the year, did not appear as an epidemic in the town or country round the port, nor were there any isolated cases in our vicinity. But from Lienchow, only 10 miles distant, reports were received that parts of that city had been rendered uninhabitable by a sudden outbreak of this disease, which, however, disappeared nearly as quickly as it had come, and did not, fortunately, spread beyond the affected areas, which were of small extent.

It will be recollected that during the first half of last year plague at Pakhoi raged in a manner almost second to no epidemic witnessed since the opening of the port, and that Lienchow was little affected by the disease during that period. This year Lienchow suffers from a sharp, short epidemic of plague, while Pakhoi remains immune. Such anomalies are difficult of explanation.

Little change has taken place in the sanitary condition of the port. During the spring the work of repairing the streets, mentioned in my last Report, was commenced, but had not progressed far, when intelligence of the unsettled state of affairs in the North reaching us put a stop to the undertaking for a time. What has been accomplished is a great improvement on the sloppy, muddy streets of the past; but, as yet, no attempt has been made towards flushing the side channels of the roads, to keep them free of fermenting filth.

Meteorological Table, April to September 1900. (Latitude, 21° 29′ N.; longitude, 109° 6′ E.)

Month.	Thermometer.			Rainfall.	Month.	Thermometer.			Rainfall.
	Highest.	Lowest.	Mean.			Highest.	Lowest.	Mean.	
	° F.	° F.	° F.	*Inches.*		° F.	° F.	° F.	*Inches.*
April	90	65	77.00	1.64	July	94	73	84.17	38.51
May	94	67	80.93	3.10	August	97	72	84.46	9.01
June	90	71	82.10	7.02	September	95	71	81.98	2.57

RAPPORT MÉDICAL SUR L'ÉTAT SANITAIRE DE SZÉMAO

PENDANT LE PREMIER SEMESTRE 1900,

Par le Docteur ORTHOLAN.

PENDANT le premier semestre 1900, il n'est survenu à Szémao rien de particulièrement intéressant au point de vue médical.

Le nombre des Européens présents à Szémao pendant ce semestre a été de trois et quatre. Il n'y a rien à signaler au sujet de leur santé, qui n'a été troublée que par quelques petits accidents tout à fait banals.

Szémao n'est habité par des Européens que depuis environ quatre ans. Ils y ont toujours été en très petit nombre, jouissant d'un mode d'existence tranquille, avec un confortable relatif. Malgré sa courte durée, le petit nombre des sujets et les bonnes conditions hygiéniques, dans lesquelles ils se trouvaient, l'expérience me paraît cependant suffisante, pour pouvoir dire que Szémao est un endroit sain, où les Européens peuvent habiter impunément sans être atteints par les graves endémies tropicales, telles que le paludisme, l'anémie, la dysenterie.

Tout en étant situé dans la région tropicale, 22° 46′, Szémao ne possède pas le climat tropical. La latitude est corrigée par l'altitude, 1,400 mètres environ. C'est encore un climat chaud, mais le degré hygrométrique y est beaucoup plus faible que dans la plupart des autres lieux situés sous la même latitude. Si en été, pendant la saison pluvieuse, l'atmosphère est saturée d'humidité, pendant l'hiver, l'air est très sec à la différence des régions voisines, le Tonkin par exemple, où pendant l'hiver, saison sèche, il fait presque aussi humide que pendant l'été. Ce qu'on appelle au Tonkin le crachin, n'existe pas à Szémao. Le ciel est presque constamment pur, sauf quelques brouillards le matin, et le soleil éclatant. C'est pour cela que, pendant l'hiver, le froid y est moins sensible qu'au Tonkin et dans les pays voisins, en même temps que, pendant l'été, la chaleur y est beaucoup moins forte et, en général, les courbes de température beaucoup plus régulières.

Voici un tableau résumé des observations faites au consulat de France depuis quatre ans, date de son installation à Szémao. Pour des causes diverses (absences, voyages) les observations n'ont pas été prises avec une constante régularité, mais telles qu'elles sont, elles suffisent, je crois, à donner une idée sur la température moyenne à Szémao.

MOYENNE DES MINIMA ET DES MAXIMA, ET MOYENNE GÉNÉRALE PAR MOIS.

ANNÉE.	JANVIER.		FÉVRIER.		MARS.		AVRIL.		MAI.		JUIN.	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1896	11.2	17.2	...	...	...	...	...	...	...	...	...	...
1897	11.2	17.2	11.0	22.5	13.5	25.0	22.0	30.5	22.6	33.6	23.7	29.2
1898	...	...	...	...	...	...	...	...	...	...	...	...
1899	7.4	19.3	7.3	20.2	12.2	25.1	15.9	27.0	18.5	25.5	19.1	24.9
1900	3.9	23.0	6.3	23.4	8.5	28.5	14.0	30.2	16.9	29.5	19.4	28.7
Moyenne générale	7.5	19.8	8.2	22.0	12.0	26.8	17.3	29.0	19.3	29.5	20.6	27.6

ANNÉE.	JUILLET.		AOÛT.		SEPTEMBRE.		OCTOBRE.		NOVEMBRE.		DÉCEMBRE.	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
1896	...	...	20.1	23.8	19.4	22.7	17.0	22.3	12.8	19.0	9.1	15.8
1897	22.2	26.9	21.5	26.5	20.9	26.5	20.3	26.2	...	...	...	...
1898	...	...	...	...	19.0	25.2	15.0	25.9	11.0	23.1	8.8	19.2
1899	19.0	25.4	19.0	26.4	...	...	16.5	24.5	11.0	22.0	...	...
1900	19.2	29.2	...	...	...	...	...	...	...	...	...	...
Moyenne générale	20.1	27.1	20.2	25.5	19.7	24.6	17.2	24.7	11.6	21.3	9.3	17.5

PENDANT LA MÊME PÉRIODE LE NOMBRE DES JOURS DE PLUIE A ÉTÉ LE SUIVANT.

ANNÉE.	JANVIER.	FÉVRIER.	MARS.	AVRIL.	MAI.	JUIN.
1896	...	...	...	...	...	...
1897	0	4	3	0	10	20
1898	...	...	...	...	...	...
1899	4	4	4	10	24	28
1900	0	0	0	11	11	20

ANNÉE.	JUILLET.	AOÛT.	SEPTEMBRE.	OCTOBRE.	NOVEMBRE.	DÉCEMBRE.
1896	...	25	18	14	0	0
1897	26	30	17	18	...	...
1898	...	...	20	8	3	8
1899	29	19	24	13	7	0
1900	25	...	...	...	...	...

Le tableau précédent montre que, pendant une moitié de l'année, la pluie est très rare à Szémao; pendant l'autre moitié, au contraire, il pleut trop abondamment. Les observations de l'état hygrométrique n'ont été faites que pendant le premier semestre 1900. Elles portent sur une période de temps trop courte, pour que nous puissions en tirer des conclusions valables.

Nous n'avons fait ces constatations sur la climatologie de Szémao, que pour appuyer l'opinion émise plus haut, à savoir que les Européens auront des chances de ne pas être atteints pàr l'anémie tropicale, si l'on considère cette anémie produite par la chaleur et la tension de la vapeur d'eau.

Aucun des Européens, que nous avons vus ici n'était, en effet notablement anémie, malgré un long séjour. Mais nous croyons, quoique nous n'en ayons pas observé d'exemple bien net, que, comme dans les climats chauds, les Européens seront assez sujets aux maladies gastro-intestinales—congestion du foie, rectite, embarras, gastriques, et dyspepsies atoniques, parésie intestinale, etc.

Si nous envisageons d'autre part l'anémie tropicale, comme provenant des accidents aigus du paludisme, ou de la lente et insensible imprégnation paludéenne, nous pourrons encore être rassurés sur l'avenir des Européens à Szémao, et espérer qu'ils n'auront pas trop à lutter contre ce paludisme et cette anémie paludéenne, ou tropicale.

Le paludisme existe à Szémao, mais à un assez faible degré. Encore une enquête sérieuse parviendrait-elle peut-être à démontrer, que beaucoup de cas classés comme fièvres paludéennes ne sont que des fièvres produites par des infections banales et non malariennes, que dans la plupart des autres cas, la fièvre a été contractée dans les environs; peut-être pourrait-on démontrer, que la malaria n'existe, que dans certains bas quartiers de la ville, les moustiques y étant d'ailleurs beaucoup plus nombreux que dans d'autres quartiers plus élevés où ils sont très rares.

Mais même en admettant qu'un grand nombre de cas de fièvre paludéenne aient été contractés à Szémao, il n'en est pas moins vrai, que le paludisme y sévit avec une intensité infiniment moins grande que dans les régions tout à fait voisines, État Shan Chinois, Laos Français, Haute Birmanie Anglaise. Il est très probable que si l'on pouvait toujours rester sur le plateau et si l'on n'était pas obligé de descendre dans les vallées, on aurait de très grandes chances de ne pas être atteint par le paludisme.

Mon prédécesseur ayant déjà donné, dans ses différents rapports, une description du pays, au point de vue géographique et ethnographique, je me permettrai seulement d'en donner un court aperçu de géographie médicale.

La ville de Szémao est bâtie sur un plateau d'environ 1,400 mètres d'altitude formé par le fond d'une cuvette, d'origine très-probablement lacustre. Les centres de la partie sud-ouest du Yunnan sont tous situés sur des élévations analogues, et les Chinois n'habitent guère que sur ces plateaux. Ils sont séparés les uns des autres par des profondes vallées, de 300 à 500 mètres d'altitude seulement, Mékong, Rivière Noire, Fleuve Rouge, et celles de leurs affluents. Toutes ces vallées sont infestées par le paludisme. Les Chinois Yunnanais n'y descendent qu'avec crainte pendant la saison sèche, et refusent absolument de les traverser pendant la saison des pluies. Ces vallées méritent bien leur réputation d'insalubrité. La morbidité et même la mortalité pour les Chinois du Yunnan, qui sont obligés d'y résider, ou

simplement de les traverser, est vraiment extraordinaire. Nous en avons vu nous-même des exemples frappants parmi les muletiers coolies ou soldats qui nous accompagnaient. Tous les Européens, qui ont voyagé dans cette région, ont d'ailleurs depuis longtemps constaté ce fait, de l'extrême sensibilité du Chinois Yunnanais au paludisme, dès qu'il quitte ses hauts plateaux pour les basses vallées.

Aussi celles-ci sont-elles, comme les vallées du Tonkin, du Laos et de la Birmanie, habitées par les rameaux de la grande race Thaï, rameaux qui se sont conservés presque purs de tout mélange avec les Chinois, et qui, à part quelques différences dans le langage et les vêtements, sont à près les mêmes que les Laotiens de la vallée du Mékong, les Thaïs, Thos des vallées des Fleuves Tonkinois et des régions frontières du Quang-si et du Quang-tong.

Ces races, sans doute par l'accoutumance acquise dans une très-lointaine hérédité, jouissent d'une sorte d'immunité vis-à-vis du paludisme, et peuvent vivre dans les vallées, mais ne constituent que des races inférieures et abâtardies et n'ont jamais pu arriver au degré de développement social qu'ont atteint les peuples qui les entourent immédiatement—les Chinois, les Annamites d'un côté, les Siamois et les Birmans de l'autre.

Dans la région de Szémao, il y a encore, à l'état d'ilôts ethniques disséminés, quelques représentants des races Lolos et Hounis, mais ces éléments sont ici en réalité peu importants, beaucoup moins que dans d'autre région du Yunnan, et en train de se fondre dans la race chinoise. On ne les trouve guère, eux aussi, que sur les plateaux et les montagnes élevées.

Cette partie sud-ouest du Yunnan, la seule qui nous occupe, peut donc être considérée comme un ensemble de plateaux, habités par des Chinois et quelques éléments aborigènes, et de vallées, séparant les plateaux, habitées par les Thaïs et leurs divers rameaux.

Cette idée d'ensemble géographique et ethnographique se complète à notre point de vue médical, en disant que les plateaux sont sains et que les vallées sont infestées par le paludisme. Si l'on veut aller plus loin et envisager la future mise en valeur du pays, par une déduction nécessaire des considérations précédentes, nous pourrons dire :

1°. Les vallées habitées par une race de condition un peu inférieure, avec grands espaces vides et incultes, très propres par leur climat aux riches cultures sub-tropicales, seraient très difficilement mises en valeur à cause de l'intensité du paludisme, sauf peut-être pour des émigrants du Quang-tong, qui sont si remarquablement adaptés pour lutter contre la malaria.

2°. Les plateaux habités par une population chinoise assez dense, très bien cultivés, avec peu d'espaces inoccupés, jouissant d'un climat tempéré, seraient une région très favorable à la vie des Européens, mais où il leur serait impossible de lutter contre la concurrence chinoise, et où ils ne trouveraient pas d'espaces disponibles pour l'agriculture.

Le nombre des indigènes qui sont venu demander mes soins pendant le premier semestre est de 152, nombre se décomposant aussi d'après la nature des maladies.

Paludisme, accidents aigus et chronique	33	Herpès circiné	3
Troubles gastriques—dyspepsie	9	Autres maladies de la peau	5
Athrepsie	1	Carie dentaire—abcès	5
Noma	1	Abcès divers—panaris	3
Embarras gastrique fébrile—constipation	5	„ du sein	2
Diarrhée	1	Plaies ulcéreuses diverses	6
Dysenterie rectite	2	Brûlures	3
Stomatite	1	Morsure (tigre)	1
Amygdalites aiguës—pharyngites chroniques	4	Adénite cervicale	2
Laryngite	1	Ostéite suppurée (tibia)	1
Bronchites aiguës	4	Hernie inguinale	2
„ chroniques tuberculeuses	5	Orchite tuberculeuse	1
Endocardite chronique	1	Hémorrhoïdes	3
Myxœdème—infantilisme	2	Phimosis	1
Goîtres	3	Blennorrhagie	3
Rhumatismes—douleurs articulaires	2	Conjonctivite granuleuse	9
Empoisonnement par l'opium	2	Opacités de la cornée—kératite	4
Cachexie opiacée	4	Iritis	1
Gale	3	Cataracte (opérée)	1
Eczémas divers	5	Entropion	1
Rupia syphilitique	1	Otite purulente chronique et mastoïdite	3
		Otorrhée	2

Aucune conclusion spéciale ne peut ressortir de cette statistique, sauf que les maladies paludéennes et les affections oculaires sont relativement nombreuses, ou plutôt sont des maladies pour lesquelles les Chinois viennent trouver assez volontiers le médecin européen.

Pour les affections paludéennes, nous avons dit plus haut comment et où elles sont surtout contractées.

La fréquence des affections oculaires, en particulier de la conjonctivite granuleuse, tient l'état de misère et surtout de saleté dans lequel vit une grande partie de la population.

L'hygiène privée et publique laisse en effet beaucoup à désirer et on ne peut que s'étonner, en voyant les villes chinoises, et se demander, comment il se fait, que les diverses maladies épidemiques ne déciment pas la population, plus encore qu'elle ne le font.

Pendant ce semestre, je n'ai pas vu de cas de peste, et je n'ai pas entendu dire qu'il y en eût dans la ville, ou les environs; mais cette éventualité peut se produire d'un moment à l'autre. L'hôpital d'Hanoï a bien voulu m'envoyer quelques flacons de serum antipesteux. Le cas échéant, je me propose de l'expérimenter aussi sérieusement, qu'on peut le faire parmi une population chinoise et avec les moyens dont on dispose ici.

Une épidémie de variole a régné pendant le deuxième trimestre avec beaucoup d'intensité, cependant la mortalité n'a pas été très grande. Aucune précaution n'est prise et il n'est pas rare de voir dans les rues, portés par leurs mères, des enfants encore couverts de croûtes varioliques.

J'ai vacciné avec succès une quarantaine d'enfants et aucun d'eux n'a contracté la maladie. Le vaccin provenait de l'Institut Pasteur de Saïgon et avait deux mois de date. Devant le succès de cette vaccination, je ne doute pas que les années suivantes, on ne vaccine un beaucoup plus grand nombre d'enfants, mais il faut compter avec la routine et l'indolence des Chinois. Presque tous les enfants vaccinés étaient de familles ayant une position sociale relativement élevée et en général riches. C'est tout le contraire qui se produit pour les consultations ordinaires. Il ne vient le plus souvent que des miséreux, des coolies, des pauvres gens, qui viennent non pas pour se soumettre à un traitement rationnel et quelquefois long, mais uniquement me demander la médecine, qui doit les guérir tout de suite, en une seule séance, et surtout qui ne leur coûte rien.

614.0951

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

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FOR THE YEAR ENDED 30TH SEPTEMBER 1901.

61st and 62nd Issues.

From

PUBLISHED BY ORDER OF

The Inspector General of Customs.

March 15, 04

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AND SOLD BY

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INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.— * * * * *

I am, etc.,

(Signed) ROBERT HART,

Inspector General.

To

THE COMMISSIONERS OF CUSTOMS.

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DR. C. C. DE BURGH DALY'S REPORT ON THE HEALTH OF NEWCHWANG

For the Eighteen Months ended 31st March 1901.

AMONGST the European residents four births have occurred and no death.

The European population of this port numbers generally from 130 to 160, and it speaks well for this climate that there has not been a death during the past three years. The general health during the period under review has been very good; the only serious cases met with were malarial fever, typhoid fever, hemiplegia, acute alcoholism (in one case complicated by an acute attack of cystitis and septicæmia), pneumonia, and measles. The ordinary number of minor ailments were also treated.

The number of cases of bubonic plague rapidly diminished during the latter half of October and November 1899. In December there was a sudden outbreak of pest pneumonia, 15 cases occurring amongst the Mahommedan butchers; of these, 14 died and one recovered. The last case of pest occurred on 7th December 1899, and since then we have failed to discover or hear of any renewal of the disease. The first case of pest occurred in the third week of July, and the last on the 7th December, 1899—a period of four and a half months; during that period about 3,000 people died, being about 3 per cent. of the population. The plague spread to towns and villages in all directions, but in none of these places has there been an outbreak since December 1899.

When the epidemic was subsiding, a large medical staff arrived from Japan. House to house visitation was carried out, with little or no result. Hospitals were provided, but were very little used. Some of the streets and drains were imperfectly cleaned, and several thousand rats were burnt, 5 cents being given for every rat. It was found impossible to institute effective sanitary measures; and we can only suppose that bright sunlight, with a dry atmosphere of a very low temperature, and the disappearance of fleas and other body insects, may account for the complete disappearance of pest in this port and its vicinity.

There is nothing further of interest to report, except that since the Russians took the town the streets and drains have been kept clean, and useful sanitary measures are being gradually introduced, and before long this town ought to be one of the healthiest in the East.

DR. DAVID BROWN'S REPORT ON THE HEALTH OF WUHU

For the Eight Months ended 31st March 1901.

THE general health of the foreign community at this port has, on the whole, been fairly satisfactory. If we except malarial fever, which is the commonest disease here, nothing demanding special mention occurred during this period; but during the autumn and early winter fully 40 per cent. of the foreign population under my charge suffered from malaria, as diagnosed by symptoms and in many cases confirmed by microscopical examination of the blood. For the most part these were mild cases of the intermittent type, but in a few the remittent form, with intense headache, gastro-intestinal symptoms, nausea, dry tongue, and great prostration occurred. These cases last from eight to twelve days.

The treatment in all cases was aperients at the outset, the judicious use of hydrochlorate of quinine, and pills of iron and arsenic during convalescence. Some of these cases may have been due to the prolonged drought, which causes large tracts of marshy land and paddy fields to be exposed, which in ordinary seasons are covered with water.

A few isolated cases of diarrhœa occurred during the latter portion of the summer.

Catarrhal affections of the air passages were prevalent in the early months of 1900, due to sudden changes in the temperature.

There were no epidemics during the period under review.

One death of a foreigner, over 60 years of age, occurred from pneumonia, supervening on an attack of bronchitis.

Three cases are deserving of special note:—

1.—On the 16th September a strong healthy adult complained that sometimes "his feet swelled and that little spots came out on his legs." On examining, I noticed that there were round flat elevations of a dark-red colour on the skin over the tibial surfaces of both legs, not unlike the erythema nodosum of rheumatic origin. There was also some œdema of the feet, which, he told me, disappeared after walking. He had been troubled with this complaint occasionally for some time. The urine contained no albumen, and the heart and lungs were normal.

I put him on moderate doses of potassium iodide and sodium salicylate, which relieved the pain somewhat, but still the erythema would appear at stated intervals. I then ordered

him 5-grain doses of quinine three times a day, and this was continued for a week, with the result that there was a total subsidence of the affection. Although examination of the blood gave negative results, I am of opinion that this skin eruption was of malarial origin.

Six weeks afterwards the same patient came to me with a violent rigor, which he developed suddenly, and suffering intense agony from "pains in his knees." He had got a severe cold three days previously while out shooting. His temperature was 103°.4 F. On examination, I found his knee-joints perfectly normal. The painful spot in both legs was over the rectus tendon. I sent him to bed, gave him a diaphoretic draught, and applied liniment of belladonna to the painful regions. Notwithstanding, he slept none during the night, on account of the severity of the pain, which he described as "griping and squeezing," and which at every spasm caused him to groan with agony.

On the 2nd day the lungs were examined, but nothing but a little harsh breathing discovered; the temperature still remained high and there was no diminution in the severity of the pains. Opium had to be administered.

On the 3rd day he complained of pain in the right side and also of shortness of breath; in short, he developed a typical pneumonia of the right base, with crisis on the 7th day.

The remarkable feature of the case was that the pains in the legs disappeared with the full development of the lung trouble, only to return, but much less severely, after the crisis. Soon, however, the pains disappeared, and after a somewhat tedious convalescence patient was restored to the enjoyment of perfect health. I think the pains in the legs were a distinct affection and not a part of the onset of pneumonia.

2.—August 1900.—Patient, a young man, 14 years in China, suffers from severe pains along the course of the sciatic nerve, right leg; painful points over the sciatic notch, where the nerve divides in the middle of the thigh, in the calf, and ankle. History of a severe wetting seven months ago. Had an attack eight or nine years ago, which was cured by large blisters. Patient is completely doubled up; cannot walk for 100 yards without suffering intense pain; pain has distinct periodicity. In the early morning fairly free from pain; always worse when stomach is empty, much less after defecation, modified to a certain extent by atmospheric changes, greatly increased by mental worry. Patient had just returned from Kusatzu, in Japan, where he took the baths for three months. General health greatly improved, but not much change in the character or severity of the pain. Rectal examination revealed nothing abnormal; no tenderness on percussion of the spine. Reflexes normal.

From September onwards all the drugs that have been recommended by various authors were tried, but with indifferent results. For temporary relief, the most satisfactory treatments were hot packs and bloodless nerve-stretching (flexing the thigh upon the abdomen while the knee is bent, the leg being then gradually but forcibly extended: in this way the sciatic nerve is thoroughly stretched).

Treatment in any shape, however, was unsatisfactory until, towards the close of the year, the patient was put on large doses of quinine, and from that time undoubtedly, though

slowly, there was some improvement, the pain not being quite so intense and, on the whole, less frequent.

Early in the present year I advised a course of electricity, and, having a practical knowledge thereof, the patient himself made an induction coil, which was used with great advantage. One pole was placed over the lumbar region and the other on the various painful spots. The current used at first was weak and then gradually increased, but never very strong. This was applied morning and evening, and the results were most satisfactory. After a few weeks the patient, who had not walked erect for a year without great pain, was able to engage in out-door exercises, such as golf and cricket.

The long duration, the absence of anæsthesia, no wasting of muscles, no trophic changes are all in favour of a pure neuralgia of the nerve and an absence of any organic lesion.

I have tried electricity in sciatica before, but not with very encouraging results; however, in obstinate cases it should certainly be given a trial.

3.—A patient undergoing treatment for a skin disease was put on 5-grain doses of potassium iodide three times a day. Two days afterwards both parotid glands swelled and were slightly tender. On increasing the dose of the drug, the swelling disappeared. I have seen a report in one of the medical journals of a similar case.

Amongst the Chinese diseases of the eyes and skin diseases constituted a large proportion of the cases treated. Surgical cases were not numerous. Some cases of opium-poisoning occurred, all of which recovered with the use of emetics and the stomach-pump.

The sanitary condition of the port requires a few words. While from previous Reports and from statements of old residents I learn that many improvements have been made during the last 15 years in regard at least to better housing, etc., of foreigners, there yet remains a great deal more to be done. The main drain of the port empties its filthy contents on to the river bank during low water, almost in front and about 30 yards distant from the Custom House. Defective in construction, it does not prevent the drainage from soaking into the subsoil. Also, in the early morning, one can see filth and rubbish being deposited in large quantities along the river bank; naturally, some of this is redistributed by aerial agency.

The bucket-carriage system of sewage is not only disgusting but positively dangerous. The emanations from foul drains and refuse heaps are no doubt responsible for much of the sickness that prevails. This unsanitary state of affairs must, in all probability, continue in the absence of foreign control, and can only be remedied by the establishment of a foreign Settlement.

The majority of the houses occupied by the Customs staff are built on low ground not far from the river. These houses are so constructed that they are intensely hot in the summer and cold in the winter. Arrangements have been made whereby a portion of the Customs staff will be better housed in a healthier locality at a short distance from the native city, and I sincerely hope that in the near future similar arrangements will be made for the remaining portion of the staff.

I am indebted to Mr. J. W. ANDREWS, Tidesurveyor, for the appended meteorological table:—

METEOROLOGICAL TABLE, August 1900 to March 1901.

MONTH.	THERMOMETER.		BAROMETER.		RAINFALL.
	Maximum.	Minimum.	Maximum.	Minimum.	
1900.	° *F.*	° *F.*	*Inches.*	*Inches.*	*Inches.*
August	98	74	30.00	29.62	0.22
September	96	67	30.38	29.80	2.57
October	78	51	30.50	29.85	1.91
November	70	42	30.62	30.02	2.59
December	60	32	30.70	29.98	0.62
1901.					
January	56	33	30.66	30.01	7.23
February	60	27	30.74	30.06	...
March	68	39	30.58	29.75	1.74

DR. HERBERT J. HICKIN'S REPORT ON THE HEALTH OF NINGPO

For the Three Months ended 31st March 1901.

THE general health of the residents in the period under review was fair. There were two births and one death.

Subjoined are slight outlines of the most interesting cases.

ACUTE ENDOCARDITIS.

This occurred in a patient, aged about 53 years, of very powerful physique and careful habits, but who has been a very long resident in the East.

History.—After digestive disturbances for two or three weeks, illness commenced, about 15th November, by a sudden intensely severe pain referred to the epigastrium, profuse cold sweats all over the body, hands and arms were cold and clammy; the countenance was pale and expressive of great anxiety. The heart was somewhat hurriedly examined, but no murmur was noted, and, indeed, could not have been present, as the examination was made with the phonendoscope, which greatly intensifies the ordinary sounds.

The pain subsided under morphia, but breathlessness supervened, together with a sense of oppression over the cardiac region. There was marked cyanosis. The tongue was coated. The temperature was at first 100°.6 F., and kept at 99°.6 F. for several days even in the early morning.

Two days later a loud murmur was heard over the heart, limited to the mitral region and not conducted to the left of the nipple and not audible in the back. After consultation with my colleagues, Drs. SMYTH and GRANT (to whom I am greatly indebted for much valuable advice and assistance throughout the case), it was decided that the rhythm of the murmur was presystolic. The area of cardiac dullness was normal. There was no cough and no œdema, neither was there any trace of albumen in the urine.

The next feature of the case was the slow development, some 10 (?) days later, of an ischiorectal abscess, which, after about a week's suffering, with hectic, dry, brown tongue and semi-delirium and great exhaustion, was incised, giving exit to a large quantity of very foul-smelling thin, black fluid. 74 hours later there was much improvement in the general condition, but orthopnœa (the patient could not be kept in bed for longer than a quarter of an hour or so at a time, but had to get out and walk about the room to get relief) and sleeplessness still continued marked features: the latter could not be relieved by drugs, the exhibition of which seemed to increase the delirium at night.

A gradual amelioration of these symptoms, however, occurred, and by the first week in January fair sleep was secured by the administration of 30 grains of sulphonal in two doses of 15 grains each.

A transient and slight œdema of the feet, though noted absent at first, was subsequently observed on three or four occasions at most, but it never lasted more than six to twelve hours.

About the 10th January patient complained of a pain in the calf of one leg, and, on examination, there seemed to be a very slight hardness of a small vein, pointing to a thrombotic process.

On the 19th January patient was well enough to go to Shanghai, for consultation with regard to the question of taking exercise, going away for change, etc. He was seen by Drs. PAULUN and VON SCHAB, who suggested that the disease probably originated in an acute endocarditis, as manifested by the abscess due to embolism in the hæmorrhoidal artery and by the thrombosis in the leg. They reported further that the heart was in the stage of compensation and was now enlarged two fingers breadth to the left of the nipple. They further said that they "agreed in the diagnosis of mitral valvular disease, probably stenosis combined with insufficiency." Inasmuch as in pure stenosis one does not expect enlargement of the left ventricle, this observation of its enlargement confirmed a suspicion I had entertained from the first of there being a slight systolic as well as the presystolic element in the rhythm of the murmur. The character of the pulse was small, jumping, and regular.

About the end of January the abscess re-formed and again discharged a large amount of pus; but, fortunately, the whole process was a rapid one and the abscess discharged itself by its old channel so speedily that it had no marked effect on the general health. Patient has continued to make slow but good progress since, and was soon able to resume his work. The dyspnœa has gone, but there is occasional slight cough and a tendency to diarrhœa.

Since writing, the patient has now (2nd April) a third recrudescence of the abscess, preceded, as on each previous occasion, by diarrhœa.

Treatment was first by large doses (20 grains) of iodide of sodium, combined with digitalis. In the exhaustion caused by the abscess, alcohol was given freely and continued, in decreasing quantity, for sometime afterwards. After four days treatment with iodide as above, the treatment was changed to digitalis or strophanthus and nux vomica, and this was continued till after the Shanghai visit, when it was changed to small doses of iodide of potassium. Hypnotics—morphia, bromide, paraldehyde, sulphonal, trional—were tried, to relieve the sleeplessness, but seemed to do no good, except at a late stage of the illness, when the orthopnœa had subsided, when sulphonal succeeded well.

Causation.—There seems to be no very adequate cause for the development of this illness. Patient has been rather a heavy smoker and of sedentary habits. He has been absolutely free from all trace of gout or rheumatism. The only ailment he has suffered from in the past, to my knowledge, has been very severe attacks, several times during the past two years, of colic, pointing to the passage of gallstones. In the first attack of this nature the area of tenderness followed precisely the course of the bile ducts and was followed by slight jaundice. The pain these

attacks caused was very intense and took at least 1 grain of morphia to subdue. Vomiting was generally associated with the pain.

Continued Fever.

This case was of great interest, but, unfortunately, ended fatally after a duration of 50 days. Patient was a strong, active woman, of about 35 years of age.

The illness began by a chill caught in a house-boat by sleeping in wet garments, about 13th November. The main features were:—

1. Severe headache, with great aching in all the limbs, which lasted for the first few days.
2. Profuse sweating was a marked feature throughout the illness; it did not seem to recur at any definite times, and, curiously enough, did not appear to have any marked effect on the temperature—that is to say, the temperature did not decline during the continuance of the sweating, although this was often exceedingly profuse.
3. Great nervous irritation, amounting almost to hysteria: patient made up her mind from the outset that she would not recover.
4. Costiveness: enemata had to be given daily; motions were very dark and offensive.
5. Vomiting was a feature from the 23rd to the 27th days of the fever, and recurred a few days before death.
6. Delirium was present between the 14th and 21st days of the disease; it reappeared about the 28th day and continued till death. The patient was generally conscious during the daytime.
7. Sleeplessness was a most obstinate feature throughout.

On the 17th December the temperature fell to normal for the first time; after the 19th December it remained practically normal, never getting over 99° F., until 1st January, when fever recommenced, with vomiting, and death occurred on the 2nd January. Delirium persisted even after the temperature had fallen to normal.

The tongue was clean and moist throughout the illness. The liver and spleen were but little enlarged. The abdomen was soft and flaccid, never tympanitic. There was no gurgling or tenderness in the right iliac fossa. The urine was loaded with urea, becoming almost solid on the addition of nitric acid; albumen appeared on the 28th day of the fever. There were no marked chills throughout, but now and again, about 2 P.M., there was slight chilliness complained of. Patient was an abstainer. The exhibition of alcohol, though indicated in the latter part of the illness, always seemed to increase the nervous excitement; the only form of stimulant that succeeded was small doses of Tokay wine. Quinine and Warburg's tincture did not seem to make the least impression on the fever, though they were freely given in the early part of the illness; but on the 31st day of the fever quinine was given hypodermically in 10-grain doses twice daily, and this appeared to produce a marked effect in rousing the

patient from her stupor and in clearing her mental faculties, and, on the third morning of its administration, the temperature fell below normal and kept at normal in a day or two more. It was again had recourse to when the fever returned, but failed.

The subjoined table shows the course of the temperature up to the 36th day.

Date.	Day of Illness.	Temperature.		Date.	Day of Illness.	Temperature.	
		Morning.	Evening.			Morning.	Evening.
		°F.	°F.			°F.	°F.
November 15	2nd	100.8	...	December 3	20th	100.0	102.0
„ 16	3rd	100.8	104.0	„ 4	21st	101.0	102.0
„ 17	4th	100.6	102.0	„ 5	22nd	100.6	102.0
„ 18	5th	100.8	103.4	„ 6	23rd	101.8	103.2
„ 19	6th	101.6	104.0	„ 7	24th	101.8	103.0
„ 20	7th	102.0	101.8	„ 8	25th	101.8	100.8
„ 21	8th	101.4	102.4	„ 9	26th	102.4	103.4
„ 22	9th	101.4	104.0	„ 10	27th	101.0	103.0
„ 23	10th	100.8	101.4	„ 11	28th	100.4	102.6
„ 24	11th	99.8	102.6	„ 12	29th	100.4	101.6
„ 25	12th	101.4	102.6	„ 13	30th	101.0	102.0
„ 26	13th	99.8	102.8	„ 14	31st	101.0	101.8
„ 27	14th	99.4	101.4	„ 15	32nd	100.8	101.6
„ 28	15th	101.0	101.4	„ 16	33rd	97.8	100.6
„ 29	16th	100.0	100.6	„ 17	34th	...	102.0
„ 30	17th	...	103.0	„ 18	35th	98.4	101.4
December 1	18th	101.0	101.0	„ 19	36th	98.0	...
„ 2	19th	100.0	102.0				

An apparently similar type of fever was treated by my colleague, Dr. GRANT, in two cases, both living in the same house.

In the first the fever kept up for two months. Just before its final decline patient had a marked rigor, followed by pain in one arm close to the shoulder; but there was no sign of thrombosis, although this was looked for. In this case the spleen was greatly enlarged; the heart also became very weak. Patient finally slowly recovered.

In the other case the fever ran a very mild course, and ended in recovery after a month's illness. There was no delirium, patient was bright and cheerful throughout.

DR. JOHN FRANCIS MOLYNEUX'S REPORT ON THE HEALTH OF CHEFOO

For the Half-year ended 30th September 1901.

AMONG the members of the Customs staff and their families, during the period under review, two deaths have occurred—the one, an infant, died from cerebral pressure with convulsions, and the other, an adult male, from atrophy of the liver.

The health of Chefoo generally has been good. Visitors from Shanghai and elsewhere occasionally complain, soon after arrival, of slight intestinal troubles—mild diarrhœa, induced by their own indiscretions in diet and undue sun exposure. The Chefoo water gets, quite unjustly, the discredit attached to these troubles. Chefoo residents do not suffer from the use of Chefoo water. A sufficient apparatus for distillation of water required for internal use is readily procurable, and one such apparatus should be in the kitchen of each house inhabited by foreigners, either in Chefoo or any other port in China.

There have been three births under my care during the past six months.

DYSENTERY.

Several cases of amœbic dysentery, fortunately none fatal, have given anxiety and required much care.

Before entering upon the question of treatment it is prudent to point out that amœbic dysentery (cases clinically indistinguishable from those in which the amœba coli has been demonstrated) are those with which this paper has to deal.

We are not now considering cases of ordinary catarrhal dysentery, running a course of a few days, frequently occurring in hysterical women or excitable men under climatic influence or allied inducive surroundings, and commonly yielding to a few judicious doses of castor oil, warm water, or mild astringent enemata; nor are we discussing a form of dysentery the organism of which is described by SHIGA, of Tokio, and which is reported to kill 10,000 Japanese annually. This bacillus acts by its toxin-induced necrosis of rectum and colon, with the clinical result commonly of enormous sanguineous* motions and ultimate death from hæmorrhage and exhaustion. With this latter form of dysentery my experience is not sufficient to enable me to offer any observations worthy of record; but this bacillus dysenteriæ (SHIGA) has lately been demonstrated to me here by Dr. ARNOLD (U.S.S. *New Orleans*), from cultures recently from Japan. Dr. ARNOLD'S bacteriological experiences in bubonic plague and cholera are well known, and the recent experiences of the United States army and navy surgeons with dysentery in the Philippines are so instructive, that I have availed

* *Vide* Customs *Medical Reports*, lviii, p. 30, and *Journal of Tropical Medicine*, 14th April 1900.

myself of his ability to strengthen these notes. It will, then, be of interest here to state, at second hand, that the "bacillar form" of dysentery (bacillary dysentery), as studied in Japan and in Manila, appears to be the acute, or epidemic, dysentery of the text-books. It occurs more constantly perhaps in Japan than elsewhere, and this may be explained probably by the practice of the conservation of human excrement, for fertilising purposes, near dwellings and the fact that closets are too close to human habitations.

The chief clinical characters of "bacillary dysentery" are a high range of temperature, less mucus, relatively, in the abundant "prune-juice" stools, and stronger tendencies to collapse and exhaustion than "amœbic dysentery" ordinarily exhibits. These differences are not distinctive enough to serve the practitioner's purposes, either immediately or remotely; but the existence of this form of disease must never be overlooked. Absence of the usual gratifying results by the ipecacuanha treatment should serve strongly to suggest the presence of this malady.

Its diagnosis may be clinched and made certain by the Widal reaction which SHIGA'S bacillus gives with the blood serum of an affected person. Again, this form of dysentery appears very often, if not usually, to be innocent of the sequelæ that one must always dread from amœbic dysentery, such as liver abscess or perforation of the large intestine. Bacillary dysentery and amœbic dysentery have been found co-existing in Manila.

Recent reports from Prof. KITASATO'S Institute for Infectious Diseases at Tokio, where this bacillus was first isolated and studied, indicate the probability of eventual success of an antitoxic serum in its treatment. Local treatment holds at present quite a minor place, the methods employed being sustentative and expectant.

To return to the disease the treatment of which is the principal object of this paper—"amœbic dysentery"—(it is borne in upon me as a duty to record my appreciation of the treatment by large doses of ipecacuanha), after trying many remedies recommended by men of wide experience, the treatment by large doses of ipecacuanha, in my considerable experience and modest opinion, stands pre-eminently beneficial. I have tried sulphate of magnesium with diluted sulphuric acid, with but moderate success; recently, washed sulphur (a treatment in vogue at Manila), and have found sulphur unchanged in the stools; also small repeated doses of castor oil associated with warm rectal injections of tannic acid (3 grains to an ounce of water)—a very useful palliative treatment; boracic acid solution as an enema; Dover's powder in repeated doses by the mouth; and bismuth *plus* salol, also *vid* the stomach. My opinion is fixed that they are palliative only in most cases; and that the radical and sound treatment is ipecacuanha, associated with injections, through a soft tube or catheter, of ½ or 1 grain of nitrate of silver to the ounce of pure water: let the enema consist of 20 ounces of water or more.

It may perhaps be well to repeat what the text-books (MACLEAN and MANSON) suggest among the methods of giving the ipecacuanha. First, give 10 or 15 drops of tincture of opium, followed by 30 grains of pulverised ipecacuanha after from half to three-quarters of an hour's interval. Place a mustard leaf over the epigastrium when giving the ipecacuanha. Allow no milk, etc., to be swallowed for two hours before the treatment begins and for three or four hours after the ipecacuanha has been swallowed, and instruct the patient not during this time even to

swallow his saliva. The following day, if there has been no exhausting vomiting,* I repeat the ipecacuanha, with the same associations at the same hour. Thereafter, when the last living amœba has disappeared from the stools and no blood-smeared, ill-smelling, sago-grain deposit is presented in them, bismuth and salol may advantageously be given, associated with the rectal injections previously described.

The two ordinarily accepted explanations of the therapeutical actions of ipecacuanha in large doses are, as is well known, first, its action on mucous membranes as a "stripping" agent, and, secondly, its action as a direct germicide. There is, however, a powerful agent at work after the administration of ipecacuanha in large doses, which probably itself accounts for the curative effect of the drug: I refer to the large quantity of bile which is passed through the intestines and also frequently vomited, should vomiting occur. It is quite likely that in this rests the true explanation of the beneficial action of the drug:† the bile itself is the germicide. In support of this statement I have observed, in an unstained specimen from a recent stool (after ipecacuanha has been administered), that the translucent appearance of the now motionless amœbæ has been bile-stained. In the majority of cases of amœbic dysentery there is a well-marked absence of bile-stained fæcal matter until remedial agents have been exhibited; and it is unnecessary to dilate upon the satisfaction with which the medical man regards the first truly "fæcal" stool in these cases.

In conclusion, I would state, with emphasis, that in amœbic dysentery, when ipecacuanha is given early enough in sufficiently large doses and with sufficient precautions against exhaustive vomiting, and associated with suitable enemata and proper dietary, it never fails to improve the character of the stools, and, in acute cases, cuts short the attack and almost invariably cures the patient outright.

* The emetic action of the drug is much diminished if the patient be ignorant of the remedy employed. In 1895, in Ningpo, 9 per cent. only of the dysentery cases in the *native* hospitals under my care vomited after taking ipecacuanha.

† The ulcerations and irritations of the submucous coats of the large intestine, acting through the sympathetic, no doubt have some inhibitory effect on the liver and, as it were, prepare the ground for the amœba to find in that organ the site for the frequent post-dysenteric hepatic abscess.

DR. WILLIAM KIRK'S REPORT ON THE HEALTH OF ICHANG

For the Year ended 30th September 1901.

THE health of the foreign community at this port during the past 12 months has been highly satisfactory, and there is little of medical interest worthy of report. There have been no epidemics, and but few cases of severe illness.

One death occurred, that of an adult, from phthisis pulmonalis.

During the winter months neuralgias and mild catarrhal affections of the respiratory and intestinal tracts were common, and during the summer there were the usual number of remittent and intermittent cases; none of the latter, however, were of any great severity, and all yielded readily to quinine. Three cases of acute dysentery came under observation, all of severe character, but all terminating in recovery. In these cases sulphate of magnesium in repeated small doses, with small quantities of tincture of opium and diluted sulphuric acid, gave good results. In intestinal flux, not necessarily dysenteric, accompanied by tormina, tenesmus, and bloody mucus, sulphate of magnesia, with rest in bed and warmth to the abdomen, I find, in most cases, to act like a charm. Several cases of hepatic congestion, in forms of varying severity, occurred during the summer; but in all a low diet, rest in bed, and a saline purge, with chloride of ammonium, were sufficient to bring about resolution.

In September diarrhœa, inflammatory diarrhœa, malaria, and hepatic congestion were prevalent; these were due no doubt to chills, the result of exposure to cold current of air while the body was bathed in perspiration. There have been no cases of cholera or small-pox amongst the foreign community, and few of either, as far as I can learn, amongst the native population.

Of other diseases not specially dependent on climatic influences, there has been no undue proportion. The winter 1900–01, although prolonged, was not accompanied with the same degree of frost as during previous years; there was, however, a heavier rainfall.

The summer of 1901 will be remembered as one of exceptional mildness; May, June, and July were comparatively cool months. The great heat did not begin until late in July, and lasted only about 10 days. Without almost any intermission, there was a daily up-river breeze, which, together with the phenomenally low temperature record, accounts for the unusually high standard of health of this period.

The following abstract is from the meteorological observations taken at the Custom House:—

METEOROLOGICAL TABLE, October 1900 to September 1901.

MONTH.	THERMOMETER.				BAROMETER.		RAINFALL.	
	Highest.	Lowest.	Average Highest.	Average Lowest.	Highest.	Lowest.	Quantity.	No. of Days.
1900.	° *F.*	° *F.*	° *F.*	° *F.*	*Inches.*	*Inches.*	*Inches.*	
October	88	45	74	59	...	...	5.80	4
November	85	37	68	47	...	...	0.93	2
December	69	28	54	39	...	...	1.60	6
1901.								
January	54	26	44	37	30.461	29.801	1.11	6
February	74	25	57	35	30.657	29.790	...	...
March	82	35	67	45	30.327	29.522	0.94	4
April	91	49	74	57	29.981	29.415	3.65	5
May	100	52	81	64	29.972	29.340	3.20	5
June	101	62	91	72	29.660	29.180	3.62	3
July	104	68	91	74	29.565	29.270	6.87	6
August	104	71	98	78	29.840	29.197	4.96	1
September	101	60	88	67	30.027	29.567	2.45	6

Dr. W. E. MACKLIN'S MEDICAL REPORT ON NANKING.

In this Report, my first, I shall give a short *résumé* of the diseases I have met among foreigners.

I have seen a number of cases of acute pharyngitis, cases of boils, and one case of appendicitis; several cases of diarrhœa (cured readily by castor oil, sometimes in repeated small doses, and ordering a diet of milk, soft eggs, and, later, rare beef—vegetable and farinaceous food being avoided); one case of acute epilepsy; one case of chronic malarial poisoning, due to residence in a southern port (malaria is very common, and readily relieved by quinine); one case of chronic asthmatic bronchitis; and one case of acute liver congestion, with fever (which yielded promptly to calomel and salines and an appropriate diet).

The above are Customs patients treated during the past two years. In the past 10 or more years two missionaries, to my knowledge, have died of acute dysentery and one of high fever, due, presumably, to malaria.

Malaria is very prevalent, on account of the low-lying ground on the banks of the Yangtze and the great number of ponds, making an excellent breeding-place for mosquitoes. I find the poisonous Anopheles corresponding in appearance to the descriptions of the home species; it is very much less numerous than the common breeds. There is a great deal of malaria amongst the natives—quartan in the winter and much tertian and quotidian in the summer and autumn. Patients sometimes come in such a state of marasmus as to resemble pernicious anæmia. I made a careful examination of the blood of such a case and found parasites in all stages of growth, from mere pigmented or even non-pigmented specks to the parasite in fission; but there were no crescents. In some cases of fever I have found crescents only after a long search, while in one, I remember, there were four or five crescents in one field.

In the winter quartan malaria parasites are quite sparse, one to four or five being found in a slide after long search.

Children suffer frequently from diarrhœa. I find the best treatment to be castor oil and modified milk.

The winters are very healthful and invigorating.

Among the peculiar diseases I find leprosy very common, both in my dispensary and on the street. There is no attempt at segregation. Gurjun oil and chaulmugra oil have some beneficial effect.

Nanking people are very subject to ulcerated legs, due, seemingly, to weakness of tissue. I have tried many remedies, but the best I have found is a little battery made by cutting a piece of zinc sheeting large enough to cover the ulcer; in cutting, a tail is left on the zinc,

which is attached to a sheet of thin copper about 2 inches square which lies on the skin near the ulcer. When these two plates are bound on the leg, a current of electricity is generated and the growth of the ulcer is very rapid. This plan is an improvement on the tinplate method, and I wonder it is not more frequently made use of; I have only been lately using it, but have read of silver and zinc plates being used for bed-sores.

There was an epidemic of cholera a few years ago, and sporadic cases occur, I should think, every year.

Diphtheria occurs amongst the natives. Dr. LUCY GAYNOR treated a family of foreign children, and used the antitoxin with admirable effect. The first case attacked could not get the antitoxin and was very severe, with resulting necrosis of tibia; those injected did very well.

During famine times typhus is very prevalent and serious; about three years ago one foreigner died, having taken it from famine cases. A foreign lady was attacked, and recovered, with prolonged convalescence. The Chinese always pick with a needle over the skin at the pit of the stomach, and say they take out sheep's hairs; I have seen the operation, and it seems to me they get hold of a shred of areolar tissue and pull it out. The operation seems to do good, I should say, by counter-irritation. Measles and rötheln are very common.

DR. J. B. FEARN'S REPORT ON THE HEALTH OF SOOCHOW

For the Ten Months ended 30th September 1901.

DURING the past 10 months the health of the Soochow community has been good. Nothing of special importance has characterised the time under consideration, but the usual run of diseases has kept the physician busy. The foreign community outside the city has been free from sickness of a serious nature. There have been several cases of malaria, and among them a few which have been hard to control. In two cases malarial phlyctenular conjunctivitis has followed and persisted for some time. In both cases the external applications, with quinine administered internally, has yielded good results. The good quarters furnished for the greater part of the staff has no doubt been an important factor in preserving good health. One member of the Out-door staff, who had been here from about the time the port was opened, and whose system had become impregnated by malaria, was transferred, the doctor was glad to see, to a port where he could enjoy better health.

The foreigners inside the city, on the contrary, have suffered more than usual with the various forms of malaria, particularly a pernicious form of malarial diarrhœa. This no doubt has been due to the fact that old graveyards have been bought, and the removal of bones has necessitated the constant upturning of the soil, which has been undisturbed for years. Typhoid fever has not only been noticed in an unusual number of cases, but nearly every case treated has been of a grave type, and has manifested malarial symptoms either at the beginning of the attack or during convalescence. At one time eight in one family were down with this fever. No fatal results have followed where the physician has had the entire direction of the case.

The increase in opium-smoking, and decrease in the number of those coming to us to break the habit, is marked. The latter fact is no doubt due to the increased sale of the morphine and other preparations, which are flooding the market and which are supposed to make this a less painful ordeal. The facts of the case are, so far as our experience goes, that this is only the exchange of one habit for another. It is worth noting that among those who have been in our opium refuge two have given as their reason for breaking the opium habit that they wanted to secure good positions, but had found this impossible as long as they smoked opium. To those interested in the future welfare of China, this is an interesting fact, since it shows that employers are beginning to feel the necessity of having as their employés men who are not addicted to this ruinous habit.

We have had an unusual amount of surgery in our hospital work. The people are more willing, and in many cases even anxious, to put themselves in our hands to be dealt with as we think best. Formerly, we have had to beg them to submit to even the slightest operation; but now things are reversed: time and again, in opposition to our advice, they have begged for an operation, and are willing to run almost any risk at our hands in the hope of a cure. This fact will be interesting no doubt in that it shows the changed attitude of the people toward foreign innovations.

It has been said that the Chinese are strangers to septicæmia; but evidently the person who made this statement has had little to do with midwifery as conducted by the Chinese. For some time no cases came under our observation, and we were about to rashly conclude that the above-mentioned statement was correct, and to feel that possibly their systems were so impregnated with germs that a few millions more or less made little or no difference. But as time brought more work, along with it came the call to help where the Chinese midwife had failed. Could it be otherwise than a common occurrence when a woman with pustular conjunctivitis, with eyes almost closed and face wet with the purulent discharge, conducts a labour with unwashed hands? This, like the belief that the Chinese are immune from diphtheria, is a fallacy that needs only time to disprove, and to reveal the indisputable fact that both these diseases are not only common but peculiarly fatal among them.

DR. HENRY LAYNG'S REPORT ON THE HEALTH OF SWATOW

For the Two Years ended 30th September 1901.

BUBONIC PLAGUE.

FOR the sixth and seventh years in succession the disease has been epidemic, either in the port or in the district. In 1900 Ch'ao-yang, part of the city of Ch'ao-chou-fu, and Ngkng districts were the places that chiefly suffered. In this year (1900) the port was remarkably free, a few cases only occurred, and these were confined to two houses; there was no spread of the disease. In one case the house, which was placed under my charge, was a new three-storied building, and had only been occupied for a few months. The floors were all tiled and no rat hole or track could be discovered. Nevertheless, dead rats were found under the beds in several of the cubicles. The house, for a Chinese coolie abode, was exceptionally clean.

Examples of this kind prove the absolute necessity of making a daily search for dead rats, instead of being satisfied with the knowledge that one's house is free from rat holes. Experience proves that rats suffering from plague will flee from an infected area to a non-infected one. In 1901 Ampou and surrounding villages suffered most heavily. The epidemic also raged in Kityang, Poleng, Tathoupou, and, to a less extent, in Ngkng, and, to a still less extent, in the port of Swatow; indeed, it seemed at one time that the port itself was likely to suffer from a serious epidemic.

A great number of Ampou residents sought refuge and a home in Swatow, some of whom arrived only to quickly return to die in their own houses in Ampou, the disease having been contracted previous to their departure; with frequent deaths due to imported cases, the difficulty of arriving at an accurate decision of the extent of the disease was greatly increased.

It is not possible to quote figures with accuracy: report has it that in 1900 over 3,000 died in Ch'ao-yang alone, and that in 1901 in Ampou alone over 2,000; it is unusual for the same town to suffer heavily two years in succession. In the summer of 1901, for the first time, a number of dead rats were found in a foreigner's compound, situated some 500 or 600 yards away from any Chinese houses. A vigorous attack was made on the rats, with success, and no case of plague occurred in the compound. After this it was considered advisable to institute a daily search for dead rats in all Customs buildings.

Glandular Fever.

It is generally acknowledged that there is a specific fever occurring in epidemics, characterised by inflammation of one or more glands, the chief sufferers being children.

For some years I have been cognizant of the existence of some such disease in this district, hardly a year passing without my seeing several Chinese children in whose case the diagnosis made was glandular fever; but it was not until the 13th October 1900 that I had my first case in a foreign child; since then I have had two more. In all these cases the onset was sudden, the temperature rising to 102° F. or higher, accompanied by restlessness, a white furred tongue, constipation, and a dry skin. The child's face suggests at once a throat disease before any glandular enlargement is visible to the eye. Examination of the throat usually shows some congestion. In all three of the foreign children the first glands affected were situated at the edge and beneath the anterior border of the sternomastoid muscle of the left side. In one case it was confined to the left side; in one there was one gland slightly enlarged on the right side (but this child had twice previously suffered from acute tonsillitis); in the third case both sides were affected, the right subsequent to the left.

In two cases the fever lasted only three or four days; in the third, 10 days, a higher temperature being recorded as fresh glands were involved. In all three cases the most marked signs after the subsidence of the fever were the pale, anæmic face and loss of appetite. Two cases occurred in houses where other children lived; in one the patient was isolated as far as possible, in one isolation was absolutely impracticable, and in the third case no other child lived in the same house. In one case of a Chinese child, who was attended by myself at the same time as two of the above cases, one of the swollen glands, which were situated on the left side, suppurated. After the abscess was opened recovery quickly followed; this child was suffering from marked anæmia before the onset of the attack.

The three cases in foreign children were all girls.

Treatment.—First, a simple purge, followed by salicylate of soda and hot fomentations, in the acute stage, and tonics, such as syrup of the iodide of iron or other iron preparations, afterwards.

Mumps.

In the summer of 1901 an epidemic occurred at Kakchieh, on the south side of the harbour; it was confined to Chinese. Two or three cases were seen with secondary orchitis, and one in which the testicles were the only parts affected.

Small-pox.

From September 1900 to February 1901 this disease was far more prevalent than usual. The epidemic was one of marked severity, and was chiefly confined to very young children. The Chinese practice here is to vaccinate or inoculate only in the cool months. On several occasions I endeavoured to persuade householders to break through the custom, but rarely

with success. Untold benefit would have followed on the successful carrying out of a compulsory vaccination order in September 1900, when it was already clear that the type of the disease was of a malignant kind. This epidemic started in the port of Swatow and spread in all directions. It is said that from 300 to 500 children died.

During these two years seven foreigners have been treated in the small infectious disease hospital for small-pox; only one was a resident. Of the seven cases, six made good recoveries; the seventh was one of hæmorrhagic small-pox, in which death occurred on the 9th day.

The usual treatment was salol internally, anointing the body daily with a mixture of carbolic and eucalyptus oils, and creolin baths. The only light admitted into the rooms came through windows covered with red paper.

A distressing irritation of the skin was observed amongst foreigners and natives alike, inhabitants of several houses situated close to some trees that had been denuded of leaves by a plague of small hairy caterpillars. Outside, on the walls of two houses, I saw many hundreds of these pests. In both houses nearly all the inmates suffered. The cause of the irritation is the hair of the creature coming into contact with some exposed portion of skin. In adults, beyond an early evanescent weal, there is usually nothing to be seen but the injuries inflicted by the nails whilst scratching. In very young children an extensive erythema was noticed. These caterpillars feed on the young bark of the new terminal branches. The young stems are often entirely denuded of the tender bark, thus causing the leaves to droop and die: a branch so attacked gives an appearance that is not easily mistaken.

Typhoid Fever.

In both years cases have been met with amongst the Chinese. In the summer of 1901 two occurred amongst the foreign residents, the first cases for many years. During this period four cases were treated in the Seamen's Hospital; three recovered and one died.

Malarial fevers have been more prevalent than usual during the summer and early autumn of 1901; this, though general, was more marked amongst the inhabitants of the villages on the south side of the bay.

In the two years there have been 10 deaths in the port amongst foreigners; of these, six were residents and four non-residents. The following were the causes: drowning, two; Bright's disease, two; liver abscess, one; heart disease, one; pneumonia, one; hæmorrhagic small-pox, one; typhoid fever, one; tuberculosis of the peritonæum, one.

DR. RODERICK J. J. MACDONALD'S REPORT ON THE HEALTH OF WUCHOW

For the Year ended 30th September 1901.

THE health of the foreign community has been comparatively good. One birth has occurred, but no death.

The state of the town is as deplorable as ever.

The diseases prevalent here, numbered according to the third edition of the Royal College of Physicians *Nomenclature*, are given in an appended list, in which some attempt is made to differentiate between the diseases of men, women, and children, both foreign and native, for each month of the year, and in which an indefinite number of observed cases is marked "*x*."

Disease was related to season thus: October 1900—malarial fever, dysentery, boils, abscesses, zona; November—malarial fever, dysentery, epidemic ophthalmia, and catarrhal inflammations; December—malarial fever, dysentery, ulcerative keratitis; January 1901—malarial fever, small-pox, epidemic ophthalmia; February—confluent small-pox, malarial fever; March—small-pox, malarial fever, anthrax, abscesses, zona; April—commencement of plague epidemic, malarial fever, eye complaints, diarrhœa, bronchitis, erysipelas, ringworm; May—plague, influenza, malarial fever, diarrhœa, dysentery, ulcers; June—plague, epidemic diarrhœa, cholera, influenza; July—height of the plague epidemic, dysentery, malarial fever, sunstroke, trismus nascentium; August—end of the plague epidemic, malarial fever, sunstroke, diarrhœa, prickly heat; September—malarial fever, dysentery.

The epidemy of bubonic plague was similar to those of previous years, except that a larger proportion of cases of abortive plague were observed amongst children, more especially, resident in the suburbs. Latterly, also, the plague has lingered longer: in 1898 and 1899 it ended in June; in 1900 and 1901, in August or September.

In the cases of ambulatory plague treated, no enforced isolation or disinfection was attempted; but relatives were advised to take ordinary precautions against the spread of the disease. 10 children and two adults, treated amidst their own surroundings, recovered, without, except in one instance, communicating the disease, and then only in its mild, abortive type.

For treatment, when first seen, a single purgative dose of calomel was given, followed, during the febrile stage, by diaphoretics and occasional doses of quinine, and tonics during convalescence. Locally, belladonna plaster was applied to buboes, and when the pain subsided lead plaster was substituted. Most of the buboes gradually dispersed, and three which suppurated—in a man, woman, and child respectively—dressed with carbolic ointment healed

satisfactorily. Hence we may reasonably infer that the disease would be less malignant if the town was less crowded. The authorities are considering the question of the repair of a road leading into the country. One favourable effect of such a road, when made, may be to induce some of the shopkeepers to bring up their families in the suburbs, thereby relieving the overcrowding in the town, with consequent amelioration of the plague.

The ingestion of unripe fruit was a predisposing cause of the epidemic of diarrhœa in June.

The malarial curve rose abruptly during October and November; culminated and declined in December; was lowest in January, February, and March; rising in April; falling to March's level in May; rising gradually in June and July, and more abruptly in August; and in September it maintained August's level.

The dysentery curve was rising in October; falling in November; rising in December; and falling in January; low till the end of April; rising in May; high during June, July, and August; and it subsided in September.

Thus the malarial and dysentery curves concurrently rose in autumn and fell in winter; but in May dysentery rose as malaria fell, and in September malaria remained high while dysentery fell.

The mortality from dysentery is far higher than it need be. Many lives have been saved by a few timely doses of ipecacuanha sine emetine combined with carbonate of bismuth and a suitable regimen. The ravages of dysentery are, unfortunately, promoted rather than checked by present methods. Amongst people who neither use such common aids to nursing as the feeding-cup, the bed-pan, or disinfectants; nor are aware of such elementary facts as that the disease causes ulcerative lesions of the large intestine, which render necessary a non-irritating diet; and that the disease is communicated by fæcal contamination of water and food, through pollution of the soil, which renders disinfection of the stools, ablutions, and thorough cookery necessary,—dysentery is a terrible scourge. As one inspects the decoction of beetles which is being administered unstrained to the dysenteric patient, one not only perceives that the irritating chitinous fragments must aggravate the disorder, but also infers that Wuchow sadly needs a school of medicine, in which practitioners may learn a more rational system of medicine. When one finds the nursing completely broken down, and a sufferer from this agonising complaint lying naked on bed-boards, without mosquito net to protect from gnats; or washing, to prevent lice creeping into the eyes; or drink at hand, to quench thirst; left in helpless loneliness to die, whilst outside the closed chamber door a portable earthenware stove burns sandalwood as though before a living tomb; and the other well-fed, well-dressed members of the household attend to their own affairs, apparently oblivious to the crying wants of their dying relative,—one infers that Wuchow needs a school for the training of nurses in some better method of management of the invalid's sick-room and cuisine. One would think that all classes of the community would gladly exert themselves to the utmost, if necessary, to secure improvement in these directions, as now, at any time, any member of the community who falls sick is liable to suffer much neglect and aggravation of suffering, and, possibly, unnecessary sacrifice of valuable life may occur, simply for the want of common knowledge, which is easily within reach.

TABLE OF DISEASES PREVALENT AMONG FOREIGNERS AND

No.	DISEASES. Name.	1900. October. Foreigners. m.	w.	c.	Natives. m.	w.	c.	November. Foreigners. m.	w.	c.	Natives. m.	w.	c.	December. Foreigners. m.	w.	c.	Natives. m.	w.	c.	January. Foreigners. m.	w.	c.	Natives. m.	w.	c.	February. Foreigners. m.	w.	c.	Natives. m.	w.	c.
	GENERAL DISEASES.																														
1	Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	I	...	Confluent	...	I	...			
8	Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
11	Influenza	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
18	Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
20	Epidemic diarrhœa	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
21	Dysentery	...	I	I	3	I	2	...	...	...	...	2	...	I	I	...	I	...	I	...	...	...	...	I	...	...	...	I	...		
23	Beriberi	...	A	...	...	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
24	Malarial fever	...	I	I	18	4	4	...	...	...	36	...	...	...	...	...	37	...	...	...	...	...	8	...	...	...	...	...	...		
26	Erysipelas	...	...	...	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
29	Tetanus	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
30	Tubercle	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	I	...	...	...	...	...	I	I	I	...	...	...	I	I	I
31	Leprosy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
33	Syphilis	...	...	...	I	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
34	Gonorrhœa	...	...	...	...	...	...	...	...	...	I	...	...	...	...	...	2	I	...	...	...	...	2	...	...	...	...	...	...		
37	Anthrax	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
40	Diseases dependent on animal parasites: ascarides	...	...	...	...	...	I	...	...	...	...	...	2	...	...	...	...	I	I	...	...	...	2	...	...	...	...	...	...		I
	scabies	...	...	...	...	...	I	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	I	...	...
41	Diseases dependent on vegetable parasites: tineæ	...	...	...	...	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	I	...	...	...	...		
	aphthæ	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
42	Animal poisoning (ptomaines)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
43	Vegetable poisoning	...	...	...	...	...	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
45	Effects of the presence of foreign bodies	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	I	...	...
46	Effects of mechanical injuries	...	I	...	...	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...
59	Rheumatism	...	...	...	2	...	...	...	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
64	New growth, malignant	...	...	...	...	...	...	...	...	...	...	x	...	...	...	...	...	x	...	...	...	...	...	x	...	...	...	...	...		
68	Anæmia	...	...	...	...	...	...	...	...	...	...	I	...	...	...	...	...	I	...	...	...	...	...	I	...	...	...	...	...		z
78	Congenital malformations	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		I
	LOCAL DISEASES.																														
	Nervous System.																														
110	Spasm (of muscles)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
118	Epilepsy	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
122	Headache	...	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
125	Neuralgia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
139	Dementia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
	Eye Diseases.																														
143	Conjunctivitis: catarrhal	...	...	...	...	...	...	...	...	...	2	4	...	...	...	...	...	...	...	Epidemic	...	...	x	...	...	...	x	...	x		
	purulent	...	...	...	...	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
148	Keratitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
149	Ulcerative keratitis	...	...	...	...	...	...	I	...	...	I	...	I	...	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...		
152	Opacity of cornea	...	...	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		
153	Staphyloma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...	...	...	...	...		
218	Entropion	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...		
223	Passive œdema of eyelids	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		x
	Ear Diseases.																														
230	Inflammation of external meatus: abscess	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	x	...	...	...	...	...		
243	Deafness	...	...	...	I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...		

NATIVES AT WUCHOW, October 1900 to September 1901.

1901.

MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.	
Foreigners.	Natives.	Foreigners.	Natives.	Foreigners.	Natives.	Foreigners.	Natives.	Foreigners.	Natives.	Foreigners.	Natives.	Foreigners.	Natives.
m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.
... ...	 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	x	... ...	1 ... 1	... ...	1 ... 1	... ...	... 1 4	... ...	 1	... ...	... ...
... ...	... ...	... ...	... ...	... ...	1	 1	 1	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	1 1 ...	3	... ...	4 ... 1	... ...	Twenty	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	1	... ...	6 2 2	1	5	... ...	7	... ...	9	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1	... .	1 1 ...
2	8	... ...	Fifteen	... ...	Ten	... ...	Twelve	... ...	Twelve	... ...	Twenty	... ...	Twenty
... ...	... ...	... ...	... 1 ...	... ...	... 1 ...	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	3	... ...	... ...	... ...	... ...
... ...	4	... ...	2	... ...	5	... ...	3	... ...	5	... ...	3 1 ...	... ...	1 ... ...
... ...	1 (anss.)	... ...	1	... ...	1	... ...	1	... ...	1	... ...	 2	... ...	1 ... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... 1 ...
2	... ...	... ...	2	... ...	5 1 1	... ...	2	... ...	4	... ...	7 1 1	... ...	2 ... ...
... ...	1	... ...	... ...	... ...	... ...	... ...	x	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	1	... ...	3	... ...	... ...	... ...	... ...	... ...	... ...	... ...	 1
... ...	... ...	... ...	1	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	 1
... ...	1	... ...	8	... ...	1	... ...	2	... ...	1	... ...	1	... ...	2 ... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	 1	... ...	... ...	... ...	... ...	... ...
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... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	1	... ...	... ...	... ...	4	... ...	... 1 ...	... ...	1	... ...	... ...	... ...	... ...
... ...	1	... ...	3	... ...	4	... ...	4	... ...	2 1 ...	... ...	2 ... 1	... ...	... ...
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... ...	x ... x	... ...	3	... ...	x ... x	... ...	... ...	... ...	 x	... ...	... ...	... ...	 2
... ...	... ...	... ...	 1	... ...	x ... x	... ...	... ...	... ...	 x	... ...	... ...	... ...	... ...
... ...	... ...	... ...	 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	 x	... ...	... ...	... ...	... ...	... ...	... ...	... ...	 1	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	 2	... ...	... ...	... ...	... ...	... ...	... ...
... ...	 x	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	 x	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ... 2	... ...	... ...	... ...	... ...	... ...	... ...	 1	... ...	... ...	... ...	 1	... ...	 1
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... .	... ...	... ...	1	... ...	... ...

TABLE OF DISEASES PREVALENT AMONG FOREIGNERS AND NATIVES

No.	DISEASES. Name.	1900. OCTOBER. Foreigners. m. w. c.	OCTOBER. Natives. m. w. c.	NOVEMBER. Foreigners. m. w. c.	NOVEMBER. Natives.* m. w. c.	DECEMBER. Foreigners. m. w. c.	DECEMBER. Natives. m. w. c.	JANUARY. Foreigners. m. w. c.	JANUARY. Natives. m. w. c.	FEBRUARY. Foreigners. m. w. c.	FEBRUARY. Natives. m. w. c.
	Diseases of the Nose.										
248	Epistaxis	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
	Diseases of the Circulatory System.										
259	Mitral valvular disease	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
272	Syncope	... ...	... ...	... ...	... ...	... ...	... ...	... ...	 x	... ...	... ...
280	Diffused aneurism	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
292	Varix	... ...	... ...	... ...	... ...	... ...	1	... ...	... ...	... ...	... ...
	Diseases of the Respiratory System.										
315	Catarrhal bronchitis	... ...	... 1 ...	 2	 1	... ...	1	... ...	x ... x	... ...	2 ... 2
322	Spasmodic asthma	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
	Diseases of the Digestive System.										
348	Catarrhal stomatitis	... ...	... ...	 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...
359	Dental caries	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
363	Abscess of dental periosteum	... ...	2	... ...	... ...	... ...	1	... ...	... ...	... ...	... ...
385	Catarrhal inflammation of the palate and fauces	... ...	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...
414	Gastro-ectasis	... ...	... ...	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...
419	Indigestion	... ...	... ...	 1	... ...	... ...	... ...	1	... ...	... ...	1 ... ...
445	Hernia, umbilical (right inguinal)	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
459	Constipation	 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
461	Colic	... ...	2	... ...	... ...	... ...	2	... ...	x ... x	... ...	1 ... ...
462	Diarrhœa	1	1	 1	... ...	... ...	1	... ...	 x	... ...	... ...
467	Fissure of anus	... ...	... ...	... ...	... ...	... ...	... ...	1	... ...	... ...	... ...
477	Internal hæmorrhoids	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
481	Hepatic congestion	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
495	Constipation	... ...	... ...	... ...	... ...	... ...	... ...	... ...	x	... ...	... ...
497	Chronic inflammation of pancreas	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
503	Ascites	... ...	... ...	... ...	 1	... ...	 1	... ...	 x	... ...	... ...
	Diseases of the Lymphatic System.										
514	Bubo	... ...	... ...	... ...	1	... ...	1	... ...	... ...	... ...	1 ... ...
	Diseases of the Urinary System.										
555	Chyluria	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
572	Urinary calculus	... ...	... ...	... ...	... ...	... ...	... ...	... ...	 1	... ...	... ...
	Diseases of the Generative System.										
580	Hæmorrhage from the urethra	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1	... ...	... ...
583	Urethral fistula	... ...	... ...	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...
606	Soft sore	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1	... ...	... ...
625	Orchitis	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
630	Spermatorrhœa	... ...	... ...	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...
682	Amenorrhœa	... ...	... 1 ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...

AT WUCHOW, October 1900 to September 1901—*Continued.*

1901.

MARCH.		APRIL.		MAY.		JUNE.		JULY.		AUGUST.		SEPTEMBER.	
Foreigners.	Natives.	Foreigners.	Natives.	Foreigners.	Natives.	Foreigners.	Natives.	Foreigners.	Natives.	Foreigners.	Natives.	Foreigners.	Natives.
m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.	m. w. c.
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	I	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... I ...	... ...	... I ...	... ...	... ...
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... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	 I	... ...	 I	... ...	... ...	... I ...	... ...	... ...	... ...	I	... ...	... ...
... ...	... I ...	... ...	I	... ...	I	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	I	... ...	2	... ...	... ...	... ...	... ...	I	... ...	... ...	... ...	... ...	I ... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	I	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
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... ...	... I ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	I	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	I	... ...	... ...	... ...	... ...	... ...	... ...	I ... ...
... ...	... ...	... ...	I I ...	... ...	I	... ...	3 ... I	... ...	3	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	 x	... ...	3	... ...	3	... ...	 I
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	I	... ...	... ...	... ...	... ...	 I	... I ...	... ...	... ...	... ...	I	... ...	... ...
... ...	I	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	I	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	I	... ...	... ...
... ...	 I	... ...	... ...	 I	... ...	... ...	 2	... ...	 I	... ...	2	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	I	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	 I	... ...	... ...
... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
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... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... ...	... I ...	... ...	... ...	I	... ...	... ...	... ...	... ...	... ...	... ...
... ...	I	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	I	... ...	... ...	... I ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
... ...	... ...	... ...	... I ...	... ...	... ...	... ...	... I ...	... ...	... ...	... ...	... ...	... ...	... ...

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684	Dysmenorrhœa	... ...	... 1 ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... 1 ...
715	Retention of placenta	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
	Diseases of the Organs of Locomotion.										
735	Caries of the inferior maxilla	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... 1 ...	... ...	... ...
746	Synovitis	... ...	... ...	1	... ...	... ...	... ...	... ...	... ...	... ...	... ...
749	Fibrous ankylosis of the inferior maxilla	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
763	Kyphosis	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
770	Abscess	1	1 ... 1	... ...	1 ... 1	... ...	... ...	... ...	1	... ...	1 ... ...
	Diseases of the Skin.										
806	Erythema	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
810	Prickly heat	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
811	Eczema	... ...	... ...	1	... ...	... ...	1	... ...	... ...	... ...	... ...
816	Psoriasis	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 ... ...
819	Herpes zoster, rt.	... ...	 1	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
823	Acne rosacea	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
829	Leucodermia	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
843	Ulcer	... ...	... ...	... ...	1	... ...	1	... ...	... ...	... ...	... ...
845	Boils	1	... ...	... ...	 1	... ...	 1	... ...	... ...	... ...	... ...
846	Carbuncle	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
848	Whitlow	... ...	... ...	... ...	... 1 ...	... ...	... ...	... ...	... ...	... ...	... ...
852	Corns	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
857	Wen	... ...	... ...	... ...	... ...	... ...	2	... ...	... ...	... ...	... ...
	INJURIES.										
941	Dislocation of inferior maxilla	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	1 ... ...
1,034	„ „ carpus backwards	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... 2 ...	... ...	... ...
1,043	Fracture of neck of femur	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...	... ...
1,044	„ „ the tibia	... ...	... ...	... ...	... ...	... ...	... ...	1	... ...	... ...	... ...
—	Confinements	... 1 ...	... ...	... ...	... ...	... ...	... 1 ...	... ...	... ...	... ...	... 1 ...

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Foreigners.			Natives.			Foreigners.		Natives.		Foreigners.		Natives.		Foreigners.		Natives.		Foreigners.		Natives.		Foreigners.		Natives.	
m.	w.	c.	m.	w.	c.	m.	w.	c.	m.	w.	c.	m.	w.	c.	m.	w.	c.	m.	w.	c.	m.	w.	c.	m.	w.	c.	m.	w.	&c.
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DR. J. H. LOWRY'S REPORT ON THE HEALTH OF PAKHOI

For the Half-year ended 30th September 1901.

FOREIGN POPULATION.

Male adults	23	Male children	8
Female adults	19	Female children	4

Though only six weeks resident in the port, I gather from records that the period under review has not been a very healthy one, and a number of foreigners have required medical treatment.

Two births have taken place (male children), a case of malarial fever of a persistent type, a case of bowel disturbance (simulating sprue) in a new arrival, a case of orchitis, a case of otorrhœa, a case of gouty synovitis of the knee, and a case of pleuritis following hæmoptysis are the chief ones that have come under my notice.

After an absence of 15 years it is pleasant to return to the port and view the strides it has made. Foreign-built houses are now studded over the plain, whereas in 1882 there was only one house that would come under the category of a foreign-built house—known to residents of that day as "Brown's Hotel."

It is also very pleasant to view what the energy of my friend Dr. HORDER, of the Church Missionary Society, has done: a model hospital has been built and well equipped, and up-to-date work is being carried on. Through Dr. HORDER'S energy and guidance, an establishment for lepers has been built, where they are treated, and where many poor outcasts have been taught industrial arts, which have helped them to make a living and made them happier members of society. Lacemaking, printing books (Chinese), carpentering, and shoemaking are the chief works being done by the lepers; they also garden round the home, grow their own sweet potatoes, vegetables, etc.

The chief diseases, Dr. HORDER tells me, that have been prevalent among natives during the past six months are mumps and measles, which have been in epidemic forms. There have been cases of bubonic plague, but it has not been epidemic. A number of cases of fever of a malarial type, in patients coming in from inland districts, have been treated. The careful and painstaking use of the microscope has cleared up many obscure cases among the natives, and most careful examinations of the blood are being made as part of the daily routine of the hospital, and the treatment of the patients is guided accordingly.

For the following meteorological table I am indebted to Mr. W. STEBBINS, Harbour Master:—

METEOROLOGICAL TABLE, April to September 1901. (Latitude, 21° 29′ N.; longitude, 109° 5′ E.)

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.	
	Highest.	Lowest.	Highest.	Lowest.	No. of Days.	Quantity.
	Inches.	*Inches.*	° *F.*	° *F.*		*Inches.*
April	30.23	29.03	88	64	10	10.70
May	30.15	29.76	93	63	7	5.63
June	29.96	29.65	94	73	5	3.50
July	29.95	29.65	94	75	14	32.08
August	30.00	29.54	94	73	8	11.89
September	30.11	29.76	91	73	8	8.09

NOTE SUR LA SITUATION SANITAIRE DE LUNGCHOW

DU 1ER MAI AU 31 OCTOBRE 1901,

Par le Docteur GAIMARD.

CLIMATOLOGIE.

PENDANT les mois de mai, juin, juillet et août de fréquents orages sont venus en 1901 tempérer les fortes chaleurs habituelles de la région de Lungchow (Longtchéou) à cette époque de l'année. À trois reprises le Sikiang s'est élevé jusqu'à 30, 22 et 25 pieds au-dessus du niveau des basses eaux, venant par ses crues successives balayer l'amas d'immondices déposé sous les maisons en bordure du fleuve, véritable foyer d'infection pendant la saison chaude de l'année.

RELEVÉ DES OBSERVATIONS MÉTÉOROLOGIQUES.

MOIS.	THERMOMÈTRE.			BAROMÈTRE.			PLUIE.		OBSERVATIONS (Hauteur des Eaux du Fleuve).
	Max.	Min.	Moy.	Max.	Min.	Moy.	Journées pluvieuses.	Quantité de pluie.	
	°C.	°C.	°C.	*Pouces.*	*Pouces.*	*Pouces.*		*Mm.*	
Mai	33.1	20.5	26.8	29.47	29.05	29.26	11	235.0	Crue de 10 mètres.
Juin	36.7	24.2	30.4	29.49	29.14	29.32	14	286.0	" 8 "
									" 7 "
Juillet	36.2	24.9	30.5	29.47	29.11	29.29	16	414.5	" 3 "
Août	37.34	24.4	30.9	29.37	29.17	29.27	12	183.6	
Septembre	34.0	22.5	28.7	29.47	29.20	29.33	8	94.0	
Octobre	32.0	22.0	27.0	29.74	29.33	29.58	6	90.0	

PATHOLOGIE (MALADIES OBSERVÉES ET TRAITÉES).

EUROPÉENS (effectif moyen = 11).

Fièvre paludéenne	6	Occlusion intestinale (avec récidive)	1
Dyspepsie atonique	1	Furonculose	1

À part le cas d'occlusion intestinale observé chez un Européen ayant de nombreux séjours antérieurs dans divers pays tropicaux, ces diverses affections n'ont présenté aucun caractère de gravité. La colonie européenne de Lungchow a eu cependant beaucoup à souffrir des chaleurs de juillet et août 1901. Quelques-uns d'entre nous arrivaient ici après un séjour de près de quatre ans dans les différents ports de Chine dans un état d'anémie très prononcé. Or il serait à souhaiter (et je ne crois pas m'avancer beaucoup en me disant d'accord là-dessus avec mes prédécesseurs) de ne voir à Lungchow que des fonctionnaires nouvellement arrivés d'Europe

et par le fait, mieux à même de supporter les rigueurs d'un climat débilitant. Outre le peu de ressources alimentaires qu'offre cette région aux Européens privés de viande de boucherie pendant six mois de l'année, on ne trouve ici que des logements pour la plupart défectueux. À part les établissements de la compagnie Fives Lille et la Mission, superbes bâtiments à étage dominant la campagne environnante et exposés à la mousson du sud-ouest qui souffle ici une bonne partie de l'année, les diverses autres constructions—douanes, consulat, chancellerie—ne sont composées que de simples rez-de-chaussée surélevés "bungalows," enfouis dans des massifs de verdure et complètement soustraits à l'action bienfaisante des vents dominants.

ASIATIQUES (Chinois, Annamites, Aborigènes).

Pathologie interne.

Maladies infectieuses:—		Tuberculose pulmonaire	3
Peste	17*	Dysenterie	4
Oreillons	2	Cirrhose avec ascite	4†
Fièvre palustre	21	Rhumatisme articulaire aigu	2
Bronchite	7	Empoisonnement par l'opium	3
Congestion pulmonaire	3		

Pathologie externe.

Coup de feu dans la région lombaire	1	Rétention d'urine	1
Fracture des os de l'avant bras	1	Hémorrhoïdes	3
Luxation du coude	1	Fistule anale	1
Plaies contuses du cuir chevelu	3	Conjonctivites simples	6
Abcès divers	10	„ granuleuses	2
Plaies ulcérées des membres inférieurs	32	Kératites	3
		Taies de la cornée	5
Plaie des lèvres	1	Dacryocystite	1
Abcès dentaires	3	Corps étrangers de la cornée	1
Gangrène des extrémités	1	Iritis syphilitique	1
Lipome du cuir chevelu (ablation)	1	Otite externe	2
Kyste de la région parotidienne	1		

Maladies cutanées.

Gale	1	Eczéma	6
Herpès circiné	3	Dartres	7

Maladies vénériennes.

Uréthrite	6	Syphilis tertiaire	3
Syphilis secondaire	2		

Vaccinations.—Sept enfants vaccinés avec succès.

* 15 traités ; 7 guérisons. † 3 ponctionnées.

La peste a fait cette année de nombreuses victimes parmi la population asiatique (entre 250 et 300 disent les mandarins), et elle a présenté un caractère de gravité exceptionnelle. On cite des maisons où des familles entières ont disparu, dont les membres ont été successivement enlevés en un laps de temps variant entre 36 et 48 heures. J'ai eu à traiter une quinzaine de cas en ville; malheureusement, ne disposant dans les premiers jours que de quantités minimes de sérum antipesteux et appelé trop souvent à une période déjà avancée de la maladie, je n'ai pu obtenir sur ce nombre que sept succès soit à peu près la moitié des cas observés.

RAPPORT MÉDICAL SUR L'ÉTAT SANITAIRE DE MONGTZE

PENDANT LE TRIMESTRE DE JUIN À SEPTEMBRE 1901,

Par le Docteur GEORGES BARBÉZIEUX.

CONSIDÉRATIONS GÉNÉRALES.

INSTALLÉ à Mongtze depuis le mois de juin seulement, je n'aurai que quelques notes très sommaires à fournir, pour le présent rapport.

Toutefois, en moins de trois mois, plus de 600 malades, exactement 614, ont réclamé les soins du médecin du Consulat de France et des Douanes impériales chinoises.

D'une manière générale, on peut dire que l'état sanitaire, à Mongtze, est satisfaisant: le climat, on l'a dit et répété, est sain et, n'était le manque absolu de toute hygiène, l'alimentation défectueuse et la malpropreté des habitants, la saleté repoussante des rues et des maisons, la misère qui sévit cruellement sur une partie de la population indigène, on n'aurait pas à déplorer la présence de certaines maladies, que nous voyons exister à l'état endémique dans toute la contrée.

CLIMATOLOGIE.

Au point de vue de la climatologie, la saison d'été de 1901 a été particulièrement pluvieuse, au dire même des personnes qui habitent Mongtze depuis de longues années. Faute d'instruments—le poste météorologique n'est pas encore installé,—je n'ai pu noter ni les hauteurs barométriques, ni les températures moyennes, ni l'étiage pluviométrique; mais la température la plus élevée n'a pas dépassé 30° C. au cours de la saison, et la température moyenne maxima semble avoir oscillé entre 23 et 24° C.

Quelques cultivateurs, avec qui j'ai eu l'occasion de parler, m'ont affirmé que l'abondance des pluies avait compromis les récoltes dans la plaine de Mongtze; mais je n'ai pas de renseignements très précis à cet égard.

PESTE.

La peste a fait, cette année, son apparition à Mongtze, et je signale le cas d'un enfant, venu des environs, pour faire, ici, son apprentissage de menuisier et qui est mort le surlendemain de son arrivée, dans une pagode abandonnée, hors des murs, où j'avais obtenu qu'on l'isolât. Le fléau l'avait atteint en route, deux jours avant son arrivée et c'est mourant qu'on le présenta à ma consultation.

Un autre cas, douteux celui-là, vaut d'être signalé: c'est celui d'un soldat, logé dans les bâtiments de la colonie française et qui mourut très rapidement, sans avoir réclamé d'autres soins que ceux d'un médecin chinois. Les quelques renseignements que j'ai pu obtenir, l'examen rapide du cadavre dans le cercueil, me permettent, cependant, de croire qu'il s'agissait bien d'un cas de peste.

On m'a assuré, d'ailleurs, qu'au cours du mois de juillet, de nombreux malades étaient morts à Mongtze, frappés subitement, en pleine force, en pleine santé; mais il y a lieu de tenir compte de l'exagération qui ne manque jamais de se manifester dans de pareils rapports, colportés par des *mafous* et l'on peut dire que l'état sanitaire de Mongtze s'est montré excellent pendant le trimestre de juin à septembre 1901.

Maladies du tube digestif.

Les maladies du tube digestif sont, naturellement, très fréquentes, dans un milieu où l'alimentation se compose essentiellement de légumes verts, mal cuits, dans une eau riche en sulfates et assaisonnés d'un vinaigre de qualité très inférieure. C'est, en effet, dans les familles aisées seulement que l'on rehausse cette alimentation d'un peu de viande de poulet et de viande de porc: le reste de la population se nourrit de riz, de poisson salé ou même séché, de légumes, arroche, haricots verts, raves, céleri, piments verts et rouges, ail, oignon, etc. L'usage de la pomme de terre ne paraît pas très répandu. En revanche, on consomme beaucoup de maïs grillé ou cru, des cœurs de bananier et des tiges de canne à sucre. Les pâtes, vermicelle, nouilles, quelques gâteaux au miel, quelques biscuits, rappelant notre biscuit de Savoie, des fruits secs, figues, raisins, des grenades, des pêches, constituent la plupart des menus et des desserts d'une famille chinoise. On consomme très peu de lait, du lait de conserve, condensé ou évaporé, vendu très cher par quelques commerçants de la ville.

Dans les villages musulmans, on tue quelques moutons et quelques bœufs: la viande en est conservée pendant plusieurs jours, salée, séchée, ou fumée.

L'eau, bien qu'elle soit en abondance, est de mauvaise qualité, très lourde, cuisant mal les légumes. Il y a bien des sources dans la montagne; mais il n'existe pas de canalisation et l'on fait usage de l'eau des puits, quelquefois, des mares, qui, étant donné la nature du terrain, est, le plus souvent, mauvaise.

De là, ces nombreuses affections gastro-intestinales qui figurent pour plus de 25 pour cent dans la statistique des maladies communes à Mongtze.

Paludisme.

Le paludisme existe à Mongtze; mais il revêt, ici, des formes bénignes, ce qui est d'accord avec toutes les observations faites sur cette affection. Mongtze fait partie de la région des hauts plateaux; elle est située loin de tout grand fleuve et son altitude (plus de 1,300 mètres) devrait la mettre à l'abri de la malaria. Mais la région a été déboisée; de nombreuses rizières retiennent l'eau, dérivée de son cours naturel; des mares énormes stagnent aux abords de la ville, où il

n'existe aucun système d'égouts. D'autre part de nombreux échanges se font entre Manhao, sur le Fleuve Rouge et Mongtze. Toutes ces conditions réunies expliquent la présence du paludisme dans une région particulièrement saine en elle-même.

Fièvre muqueuse; fièvre typhoïde.

La fièvre muqueuse et la fièvre typhoïde ont été également signalées; les quelques cas, pour lesquels j'ai été appelé, se sont terminés heureusement. La maladie avait, d'ailleurs, un caractère de bénignité exceptionnelle.

L'opium.

L'usage de l'opium fait de grands ravages à Mongtze. On verra, dans l'état statistique ci-joint, que plus du quart de la population est adonné à cette passion. Encore, ce chiffre est-il inférieur à la vérité: nous ne voyons en effet que des malades et, d'autre part, beaucoup se défendent de fumer la détestable drogue. Quelques observateurs ont élevé jusqu'à 50 pour cent de la population le nombre des fumeurs d'opium: la vérité est entre les deux chiffres extrêmes que nous citons.

Les troubles produits par l'opium sont multiples: nous avons constaté, chez tous les fumeurs, le *facies* spécial, mille fois décrit. Le teint est jaune; les yeux sont brillants, comme dans la fièvre, mais le regard est hébété et les paupières retombent lourdement. La lèvre est épaisse, la bouche entr'ouverte. Les traits sont tirés; le visage est émacié; les chairs sont molles et flasques; le parler est lent, la voix caverneuse et, chez les grands fumeurs, la compréhension est singulièrement diminuée d'intensité et ralentie. La mémoire est profondément atteinte, comme la volonté. Des troubles gastro-intestinaux sont le résultat immédiat et le plus constant de l'ingestion de l'opium. De l'inappétence, des nausées, de la constipation, quelquefois de la diarrhée, des douleurs localisées au niveau de l'épigastre, de la sécheresse de la langue et de la bouche: tels sont les premiers symptômes constatés. À la longue, des accidents plus graves surviennent, modifications profondes du sang, provoquant l'anémie; une sorte de cachexie opiacée; de l'œdème des membres; des douleurs musculaires; des douleurs des os; des névralgies, des troubles de la vision; des paralysies partielles: tout le cortège, en un mot, de la déchéance psychique, succédant à la déchéance organique. Enfin, quelques cas d'intoxication aiguë, soit par la fumée, soit par opiophagie, ont été observés, qui ont rendu des soins immédiats nécessaires.

Les femmes s'adonnent également à l'opium, comme elles s'adonnent au tabac; mais je n'ai recueilli que peu d'observations se rapportant aux femmes.

Plusieurs fumeurs d'opium, sollicités par leur entourage, ou désireux de mettre fin aux troubles qui les assaillent, sont venus spontanément me réclamer un "remède" contre l'opium. Je me suis, naturellement, bien gardé de leur répondre que je n'en connaissais pas et que la volonté seule était le meilleur remède contre une passion aussi pernicieuse. D'autre part, ne pouvant hospitaliser ces "néophytes," il m'était impossible d'essayer de la suppression lente de l'opium. J'usai donc avec eux d'un stratagème, qui paraît être bon, puisque j'ai obtenu quelques guérisons, dont plusieurs remontent à près de trois mois déjà.

Je commence toujours par purger le "converti" à l'aide du sulfate de soude, en lui recommandant bien de ne pas fumer ce jour-là, pour laisser au médicament toute son action. Le lendemain, j'administre quelques gouttes de noix vomique et je continue le traitement pendant plusieurs jours consécutifs, recommandant toujours à mon consultant de ne pas fumer,—l'opium et le remède étant incompatibles et leur présence simultanée dans l'organisme pouvant produire de graves disordres.

Le premier résultat de cette abstinence est la disparition progressive des troubles gastro-intestinaux, le réveil de l'appétit, le retour du sommeil, une sensation de bien-être et de force, augmentée par l'ingestion de la noix vomique. J'ajoute à cela quelques instructions théoriques sur les méfaits de l'opium; j'indique le risque, particulièrement redouté par tous les Chinois, de demeurer sans postérité et, peu à peu, mon malade prend assez de volonté pour résister à son ancienne passion.

Tout cela, à coup sûr, n'est pas très scientifique; mais l'essentiel est de *guérir* et, dans tous les cas, cette thérapeutique est sans aucune nocuité.

Lèpre.

J'ai eu l'occasion d'observer, à Mongtze, quelques cas de lèpre asiatique, avec pustules, plaies, perte des doigts, etc. Ces lépreux vivaient de la vie commune, logeaient dans les auberges, ou fréquentaient les pagodes abandonnées, qui servent de refuge à tous les malheureux, à tous les vagabonds, voleurs et mendiants—hélas! trop nombreux—qui sillonnent les routes. Il m'a été matériellement impossible de remonter à l'origine de la maladie, de reconnaître l'hérédité, ou la contagion. Quelques lépreux se nourrissaient de ces poissons mal salés, ou desséchés, qui se vendent sur tous les marchés du Yunnan. Comme quelques auteurs, anti-contagionnistes, ont voulu voir, dans l'usage de cette viande, une des causes immédiates de la maladie, je la signale en passant, sans, d'ailleurs, y ajouter beaucoup de créance.

N'ayant à ma disposition ni huile de chaulmoogra, que j'ai eu l'occasion d'employer autrefois, dans le service de mon regretté maître, le Dr. Vidal, médecin de l'hôpital St. Louis, à Paris, ni acide gynocardique, je me contente d'instituer un traitement général, arsenic, huile de foie de morue; de traiter chirurgicalement quelques lépromes faciles à atteindre. On ne peut songer, dans l'état des mœurs au Yunnan, à isoler les lépreux.

Maladies de peau.

Dans une région, où l'eau d'alimentation est, le plus souvent, mauvaise, où la nourriture est insuffisante et défectueuse, où tous les soins de la plus élémentaire hygiène, de la plus banale propreté, sont inconnus; où l'usage de la viande de porc, du poisson salé, des condiments de toutes sortes, est répandu, les maladies de la peau doivent abonder: elles figurent, en effet, pour 10 pour cent environ, dans la statistique des maladies observées.

Syphilis.

La syphilis est assez fréquente et, faute de soins éclairés, elle produit quelques ravages; d'autre part, des mœurs déplorables, malheureusement très répandues, grâce à la promiscuité

où vivent les Chinois du peuple, dans des maisons trop étroites, sans air, sans lumière, aux murs de terre battue, où ils sont entassés, facilitent la contagion et le développement de ce fléau.

Affections chirurgicales.

Au point de vue chirurgical, en dehors de la petite chirurgie journalière, ouverture d'abcès, etc., huit opérations ont été faites, de juin à septembre 1901 : deux luxations du coude, dont une avec fracture; une luxation ancienne de l'épaule, sous-claviculaire; une coxalgie; un lipome de la région parotidienne; un adénome cervical; une carie du maxillaire supérieur; un abcès profond de l'aisselle. Six de ces opérations ont été suivies d'un plein succès: il m'a été impossible de réduire la luxation de l'épaule, remontant à plus de six mois; quant à l'adénome, étant donné l'état de la tumeur, sa situation, ses rapports avec la carotide, j'ai cru devoir m'abstenir d'une intervention trop imprudente.

État sanitaire de la colonie européenne et du personnel des Douanes impériales.

La petite colonie européenne, établie à Mongtze, n'a eu à souffrir ni du climat, ni du paludisme et son état sanitaire est excellent. Trois Européens ont réclamé mes soins pour des indispositions légères, embarras gastrique, paludisme bénin, affections qui ont rapidement cédé.

Le personnel des Douanes impériales n'a pas été éprouvé par la maladie. Un Assistant, deux ou trois employés indigènes m'ont seulement demandé quelques conseils, pour eux ou pour quelque membre de leurs familles.

Je joins à cet exposé un état statistique complet des 614 malades, que j'ai eu l'occasion de soigner, de juin à septembre 1901.

Observations et conclusions.

Je ne voudrais pas paraître sortir du domaine exclusivement médical, encore moins ne voudrais-je empiéter sur des attributions qui, dans aucun cas, ne doivent et ne peuvent devenir les miennes; mais comment le médecin ne tirerait-il pas quelques conclusions pratiques de l'ensemble des observations et des constatations, qu'il a été amené à faire? Il est encore dans son rôle, dans sa fonction sociocratique, en proposant les réformes qu'il croit utiles et il manquerait certainement à son devoir, si, renfermé dans son cabinet, appliqué seulement à soigner et à guérir des *malades*, il ne poursuivait pas *la maladie*, jusque dans ses causes les plus lointaines, *fussent-elles d'ordre politique et social.*

Dans les états civilisés, des administrateurs, des hommes politiques, des savants, groupés en des corps spéciaux et officiellement reconnus, font essentiellement partie de l'immense organisme gouvernemental. Il existe des sociétés savantes, des comités, des académies, des commissions permanentes d'initiative, d'inspection et de contrôle, pour tout ce qui se rattache à l'hygiène et à l'assistance publiques, à la médecine, à la vaccination, aux épidémies, aux épizooties, aux logements insalubres, à la voirie, aux égouts, à l'éloignement des immondices. Quelques-unes de ces organisations sont devenues de véritables tribunaux administratifs, ou d'exception, chargés de surveiller l'application des lois, décrets, ordonnances et règlements, qui régissent toutes ces matières.

En Chine, il n'en est pas de même: il n'y a rien, ou presque rien de semblable. Le peuple est, à peu près, indifférent,—dans tous les cas, fort ignorant: quant aux autorités constituées, elles n'éprouvent aucun besoin de modifier un état de choses, établi depuis de longs siècles dont elles profitent, dont elles abusent et, d'autre part, la culture intellectuelle des plus hauts fonctionnaires chinois ne dépasse pas sensiblement celle des hommes de moyenne condition.

Tout est donc à créer, à organiser et qu'on ne dise pas que cela regarde seulement la Chine et les Chinois, à une époque où tous les ports de l'immense Asie s'ouvrent, peu à peu, au commerce et à l'industrie de l'Occident, où des colonies européennes importantes se fondent et s'installent dans la plupart des grandes villes.

Je ne prétends pas, à coup sûr, que l'on doive imposer, d'un seul coup et par la force, nos idées à un empire de plus de 400 millions d'habitants; encore, pourrions-nous, par la parole, par les écrits et, surtout, par l'exemple, montrer et faire prévaloir leur excellence.

La plupart des grandes nations occidentales entretiennent à grands frais, en Extrême-Orient, des diplomates, des fonctionnaires, des savants, des missionnaires de toutes sortes et il n'y a pas, en Europe, une seule académie—fût-elle la plus petite de la plus petite province,—qui ne reçoive quantité de notes, de rapports, de documents sur la Chine et sur les travaux scientifiques, les efforts, quelquefois, le martyrologe, de nos "pionniers" de la civilisation et du progrès.

Il est, sans doute, fort intéressant que l'on sache, à Londres, à Paris, à Berlin, à St. Pétersbourg se qui se passe en Chine, ce qu'on y fait, ce qu'on y dit, ce qu'on y pense; mais combien il serait plus intéressant que l'on connût en Chine ce qui se fait dans ces grands centres d'intelligence et de travail que sont nos capitales européennes! Le sait-on? La chose est peu probable, car le Chinois du Yunnan, par exemple, qui sait à peine ce que l'on fait à Pékin, et qui paraît, d'ailleurs, s'en fort peu soucier, ignore absolument qu'il existe, au delà des mers, des pays plus avancés en civilisation, où le progrès scientifique poursuit une évolution normale; où l'ignorance, mère de tous les fléaux, recule, tous les jours, d'un pas; où l'homme remporte, tous les jours, une nouvelle victoire sur la maladie, sur la misère et sur la mort.

Nous critiquons, non sans de sérieuses raisons, les choses que nous voyons se passer en Chine; mais nos critiques n'ont aucun écho et ceux qui en sont l'objet, ceux qu'elles devraient tendre à corriger, à améliorer, à instruire, continuent de les ignorer! Nous croyons que nous avons fait tout notre devoir, quand nous avons constaté, dans des rapports officiels, dont la plupart vont dormir au fond d'archives impénétrables, que les villes chinoises sont sales, que l'hygiène des habitants est déplorable, que chaque maison est le foyer, actif ou latent, d'une épidémie, que l'ignorance est partout, que les mandarins corrompus s'y endorment sur le mol oreiller de leurs privilèges. Sans doute, cela suffit à la vaine gloriole que nous recherchons, à nos intérêts matériels et professionnels immédiats; mais, peut-être, notre conscience nous reproche-t-elle de nous arrêter en si beau chemin et, soit respect humain, soit indifférence, soit crainte de déplaire, ou de paraître un réformateur ridicule et prétentieux, de garder par devers nous nos réflexions et nos pensées.

Au moins, ce que nous faisons en Chine, peut-il servir d'enseignement aux Chinois, leur donner le goût du progrès, ou atténuer leur crainte puérile des innovations? Bien téméraire qui oserait l'affirmer!

Sans doute, à Shanghaï, à Canton, à Tientsin, à Hankow, les quartiers européens, la *ville* européenne, sont, à peu près, construits sur le modèle de nos constructions occidentales: il y a des rues spacieuses, bien éclairées, avec des canalisations d'égouts et il existe une sorte d'embryon de municipalité, avec tous les services qui y ressortissent. Cela est bien, mais insuffisant, puisqu'à côté de ces quartiers sains, de ces agglomérations organisées, la ville chinoise s'étale, sale, hideuse dans sa pestilence.

Dans les petits *ports*, où la colonie européenne est peu nombreuse, disséminée à l'intérieur de la ville, il n'existe pas, comme dans les grands centres, d'organisation sanitaire. Là, les Européens vivent "à la Chinoise," c'est-à-dire qu'ils construisent, comme à Mongtze, comme dans tout le Yunnan, comme dans bien d'autres provinces, pour leurs consulats, leurs missions scientifiques, leurs fonctionnaires, des maisons chinoises, sans caves, à peine exhaussées sur le sol, en terre battue, que la moindre pluie fait écrouler, sans canalisation d'eau potable, sans égouts, sans système d'éloignement des immondices. Quelle supériorité montrons-nous, alors, aux Chinois, si ce n'est celle de notre apparente vanité? Ce que les Chinois voient que nous faisons à Mongtze, à Yunnan-sen, ou ailleurs, ils se figurent que c'est la copie de ce qui existe à Paris, à Londres, à Berlin et ils estiment, non sans raison, que cette civilisation, dont nous parlons, dont nous sommes si fiers, n'est pas sensiblement supérieure à la civilisation chinoise.

Sans doute, il y a nos fameux rapports, où nous consignons scrupuleusement nos observations; mais ils sont écrits en anglais, en français, en allemand, en russe et destinés à quelques personnalités occidentales.

La nécessité de traduire ces travaux et ces rapports en chinois s'impose, tout d'abord, à l'attention, comme celle de les répandre à profusion parmi le peuple.

Une idée, qu'on jette en passant, est comme le grain que le vent pousse, au hasard, dans un sillon fécond et qui y germe. Le cerveau chinois n'est pas essentiellement réfractaire à toute idée nouvelle: il suffit qu'il en aperçoive l'excellence, pour qu'il l'accepte et l'assimile.

Suffit-il d'écrire dans nos journaux, dans nos grandes revues occidentales, que l'habitude, que les Chinois ont conservée, d'enterrer leurs morts à fleur de terre, dans des cercueils mal clos, quelquefois dans de simples nattes est une cause de la propagation foudroyante de certaines épidémies? En France, en Angleterre, en Allemagne, nous possédons tout une législation spéciale, une réglementation très sévère, relative aux inhumations et il nous importe peu, au premier abord, qu'à Mongtze, par exemple, les cadavres et les charognes soient abandonnées à la gloutonnerie des chiens errants et des oiseaux de proie. Il ne nous importe pas davantage qu'il n'y ait, dans les villes chinoises, ni trottoirs, ni chaussées, ni ruisseaux, ni égouts, ni vidanges; que les pourceaux et les volailles y souillent le sol, que les immondices y séjournent devant les maisons, que la misère s'y étale dans toute son horreur, que les lépreux y coudoient les gens bien portants, fréquentent les mêmes auberges, partagent la même couche: nous avons, en Europe, nos services de voirie, d'hygiène et d'assistance publiques et, pour la plupart des Européens qui y séjournent, la Chine est une façon de lieu d'exil, où l'on passe, par nécessité, quelques années de l'existence.

Mais voici que la peste éclate à Hongkong, à Shanghaï ou à Mongtze et l'on s'effraye en Europe et l'on veut secouer son apathie, se protéger, se défendre. On s'aperçoit, un peu tard, que la solidarité des nations n'est pas une simple vue de l'esprit, mais une réalité et l'on

est amené, en dépit des protocoles et du droit des peuples, à intervenir énergiquement pour enrayer la marche du fléau! On organise des cordons sanitaires, on ouvre des lazarets, on impose des quarantaines, on donne des instructions, on répand des brochures. Palliatifs, remèdes impuissants! Je ne sais rien de plus amusant que la pédanterie des savants réunis en congrès et que cette comédie du Congrès de Venise, en 1897, aboutissant à une convention, à un contrat sans obligation rigoureuse et qu'une simple notification diplomatique suffit à dénoncer (Art. IV)!

C'est aux causes véritables de l'épidémie qu'il faut remonter, pour l'arrêter dans sa marche et, parmi ces causes, l'ignorance du peuple, l'incurie des autorités, l'inaction, sinon l'impuissance des nations, sont les principales.

Suivrons nous, dans sa retraite progressive vers l'Extrême-Orient, le redoutable fléau qui désolait l'Occident aux temps des Césars et, plus près de nous, à l'époque médiévale (peste noire de 1348)? Nous verrons que la peste recule devant les progrès de la civilisation, de l'hygiène. Elle disparaît de la France à la fin du XVIII^{ème} siècle; mais des foyers subsistent dans l'Europe centrale et dans l'Europe orientale. Un de ces foyers éclate en Moldo-Valachie, durant le cours des années 1828 et 1829. La peste quitte l'Europe, mais elle demeure en Égypte, d'où elle ne disparaît que vers le milieu du XIX^{ème} siècle (1847). Le champ de son influence se rétrécit de plus en plus, au fur et à mesure que l'homme s'instruit, que l'habitat humain s'améliore, que les villes s'éclairent, nettoient leurs rues, amènent de l'eau potable, captent les sources, éloignent leurs immondices.

Dans les villes modernes de la jeune Amérique, la peste n'a jamais fait son apparition.

Parmi les causes de la peste, le Professeur CHANTEMESSE insiste avec raison sur les causes qu'il dit être *d'ordre social.* "Ces causes," écrit ce savant auteur, "sont: le manque d'hygiène, la misère, l'agglomération des habitants, la mauvaise nourriture, la pénurie des aliments, la malpropreté des individus et des villes, le défaut d'aération, la disette—en un mot, tout ce qui constitue la misère privée et sociale."

Il ne nous est donc plus indifférent, à nous, Européens, que les villes chinoises soient autant de foyers d'épidémie, car nous savons, maintenant, que la peste est contagieuse, transmissible et transportable et nous voici conduits, par la force des choses, pour la protection de notre propre vie, à répandre, jusque chez les peuples les plus barbares, les bienfaits de la civilisation. Ce n'est pas, ici, une ingérence arbitraire dans la vie des nations, une œuvre de propagande politique, ou de conquête, mais de protection et de défense.

Nous sommes désarmés?

Eh! quoi? Les gouvernements, qui défendent légitimement, mais avec tant d'âpreté, les intérêts du commerce et de l'industrie, sont-ils désarmés, quand il s'agit de la santé et de la vie des hommes? Il existe—nous l'avons vu—tout une législation internationale des épidémies; mais cette législation ne vise que des mesures insuffisantes; elle est muette sur les seules mesures qui pourraient atteindre ces causes *d'ordre social,* dont nous parlions tout à l'heure.

Au moins, essayons de gagner le peuple, de le convaincre, par la vulgarisation de nos écrits, de nos travaux, par notre exemple. Dans les villes, où nous nous établissons, dans le quartier européen, pavons les rues, répandons la lumière, bâtissons des maisons salubres, creusons

des ruisseaux, construisons des égouts, amenons de l'eau potable, pratiquons l'incinération des cadavres, organisons des services spéciaux d'hygiène, d'assistance, de police municipale. Ailleurs, partout, que des protocoles particuliers fixent la création, l'organisation, le fonctionnement, les attributions de conseils mixtes, présidés par le fonctionnaire local le plus élevé en grade ou en dignité. Ces conseils s'occuperont des travaux publics, de voirie, d'hygiène, d'assistance. Les médecins y auront voix consultative et des inspecteurs seront nommés qui surveilleront l'exécution des décrets, des ordonnances et des règlements. La vieille Chine s'ouvrira, alors, à la civilisation contemporaine et cette victoire, remportée par la science sur les préjugés, l'erreur, l'ignorance, sera autrement féconde que les victoires remportées sur les champs de bataille.

Alors, seulement, nous aurons fait quelque chose de bon et de durable, qui sera compris, apprécié et imité.

Mais me voici bien loin, sans doute, de Mongtze. Pas autant qu'on le pourrait croire, puisque c'est le lamentable spectacle, que j'ai, tous les jours, sous les yeux, qui a inspiré ces courtes réflexions et dicté ces notes rapides.

Telles qu'elles sont, je les livre à la méditation de tous ceux qui ont charge d'âmes en Extrême-Orient, trop heureux, si elles pouvaient éveiller de hautes et généreuses initiatives et servir, même dans la plus faible mesure, les intérêts de la civilisation.

ANNEXES.

LISTE RÉCAPITULATIVE DES MALADES SOIGNÉS À MONGTZE, JUIN À SEPTEMBRE 1901.

Affections chirurgicales	8
Maladies des yeux	64
„ du poumon	26
„ „ tube digestif	157
„ vénériennes	17
„ de la peau	61
„ infectieuses	39
Lèpre	3
Peste	1
Guéris	452
Morts	2
En traitement au 1er septembre	114
Incurables	15
Disparus	16

Nombre des malades: 544 hommes, 35 femmes, 35 enfants = 614 (609 indigènes et 5 Européens). Moyenne par jour, 8.77 (malades nouveaux). Fumeurs d'opium, 155 hommes, 6 femmes = 161 (26.28 pour cent).

ÉTAT STATISTIQUE PAR VARIÉTÉS PATHOLOGIQUES (CLASSÉES PAR ORDRE ALPHABÉTIQUE).

Abcès	8	Goître	1
Adénie	1	Gourme	1
Adénite suppurée	1	Hémorrhoïdes	6
Alcoolisme	1	Hernies	4
Anémie	5	Herpès	3
Anurie	1	Ichthyose	2
Aphtes	1	Insuffisance mitrale	1
Arthrite suppurée	1	Kystes des tendons	1
Balanite	4	Laryngite	3
Blennorrhagie	1	Lèpre	3
Bronchite aiguë	3	Lipome	2
„ chronique	12	Lumbago	15
Cataracte	4	Luxations	3
Chlorose	1	Météorisme	1
Conjonctivite	53	Métrite	1
Constipation opiniâtre	15	Misère physiologique	4
Contusions	11	Morsure de serpent	1
Convulsions	2	Nécroses	2
Coqueluche	1	Névralgies	11
Coxalgie	1	Névropathies	6
Dents	7	Œdème des membres	5
Diarrhée	13	Ophtalmie purulente	2
Dilatation de l'estomac	1	Opium, accidents dus à l'usage de	14
Douleurs rhumatoïdes	4	Orchite	1
Dysenterie	10	Orgelet	1
Dyspepsie	4	Ostéite	3
Eczéma	34	Otites	1
Embarras gastrique	117	Ovarite	1
Entorse	1	Paralysie des membres	1
Érysipèle	1	„ faciale	2
Fièvre muqueuse	1	„ infantile	1
„ paludéenne	22	Pelade	1
„ typhoïde	5	Peste	1
Fistules	2	Pharyngite	1
Furonculose	18	Phimosis	1
Gale	7	Phlegmasia alba dolens	1
Gastralgie	3	Phlegmon	1
Gastrite	5	Piqures d'insecte	2
Gingivite	2	Plaies	23
Glaucome	1	„ de la cornée	3

Pneumonie	3	Syphilides	3
Prurigo	3	Syphilis	8
Psoriasis	1	Taies	2
Ptérygion	4	Teigne	1
Rétraction des tendons	3	Tuberculose	8
Rhumatisme	13	Tumeurs diverses	2
Spermatorrhée	5	Ulcères	10
Staphylôme	3	Verrues	1
Sudamina	1	Vertiges stomacaux	2
Surdité	2	Zona	1

RAPPORT MÉDICAL SUR SZÉMAO

PENDANT LES MOIS D'AVRIL, MAI, JUIN ET JUILLET 1901,

Par le Docteur SAUTAREL.

EUROPÉENS.

L'ÉTAT sanitaire des Européens pendant les mois d'avril, mai, juin et juillet a été satisfaisant. Il faut bien reconnaître d'ailleurs qu'en temps normal, Szémao grâce à son altitude (1,334 mètres) sera toujours un poste sain pour les Européens. À l'appui de ce dire, il me suffira de citer le séjour de plus de quatre ans du Commissaire des Douanes impériales chinoises, séjour qui n'a jamais eu aucune suite fâcheuse pour lui.

L'acclimatement dans cette ville se manifeste cependant par quelques troubles que j'ai eu l'occasion de constater à l'arrivée presque simultanée de trois Européens.

Quinze jours après leur arrivée, ils furent tour à tour pris de diarrhée avec léger mouvement fébrile. Cette diarrhée s'accompagne de coliques assez fortes, mais n'a pas les allures graves qu'elle revêt en Cochinchine et cède à quelques purges et doses de quinine.

Il serait intéressant de rechercher si ces troubles sont dus à l'acclimatement ou aux fatigues du voyage pour atteindre Szémao. Il ne faut pas moins, le point de départ étant Hanoï, de 40 jours par Laokai et Mongtze et 50 jours par Laïchau et Muonghou pour gagner cette région du Yunnan. Les deux routes traversent toutes les deux des contrées excessivement montagneuses et où l'infectieux palustre règne en maître. Les troubles ressentis sont à n'en pas douter des manifestations du paludisme. Le champ d'expériences jusqu'ici est trop restreint et ne permet ni de généraliser quelques observations ni de conclure.

ASIATIQUES.

Si les Européens sont atteints par le paludisme les indigènes n'en sont pas à l'abri. L'accès simple intermittent, le type rémittent, la fièvre bilieuse simple, les ictères avec ou sans hématurie et anurie, la typho-malarienne, en somme presque tous les modes paludéens des pays tropicaux se rencontrent ici chez l'indigène—ou, plus exactement, chez le Chinois. Ce qu'il y a, en effet, de particulièrement intéressant à constater c'est le peu de résistance du Chinois au paludisme comme d'ailleurs à toutes les autres maladies.

Le pourcentage des décès doit être très grand, et les statistiques manquant, pour s'en convaincre, il suffit de voir la quantité de tombeaux disséminés dans la campagne sur les monticules avoisinant Szémao.

Il est incontestable que la résistance des Chinois au paludisme est très inférieure à celle des Européens et ne peut avoir à mon avis comme principale raison que les excès d'opium.

Les Chinois du Yunnan sont en général bien constitués et n'ont rien à envier à ce point de vue aux Européens. L'alcoolisme dans cette région n'a pas de nombreux adeptes et la tuberculose est en somme assez rare. Leur nourriture surtout composée de riz, de légumes, de poulets et de viande de porc, ou de bœuf pour ceux qui sont Musulmans est très saine.

Restent donc comme causes de mortalité chez l'adulte les mauvaises conditions hygiéniques et l'opium dont la province est un gros centre de production.

Tous ceux qui ont parcouru la Chine savent comment le Chinois comprend l'installation d'une habitation. Je n'insisterai donc pas sur cette question d'hygiène qui, si elle est une cause de mortalité pour les moins robustes, n'a laissé subsister, en vertu de la sélection, que des hommes parfaitement constitués.

Or la plupart de ces malheureux s'adonnent à l'opium et en fument de grandes quantités. C'est ainsi, que d'après les renseignements pris, la moyenne fume jusqu'à 3 *tien* par jour, c'est-à-dire, la valeur en poids de $9^{\text{grammes}}500$. J'en connais qui fument 37 grammes par jour, c'est-à-dire, le poids d'un taël.

Le Dr. GAIDE, qui fut le premier médecin envoyé à Szémao, disait dans un précédent rapport: "L'opium exerce surtout son action sur le tube digestif et sur le système nerveux, et conséquemment retentit sur le fonctionnement des organes génitaux et sur l'état de santé général. On dirait que cette substance imprime à tous ceux qui s'y adonnent avec passion un habitus extérieur, *sui generis;* elle agit sur l'organisme tout entier, qu'elle frappe d'une certaine déchéance, en ralentissant les échanges de l'économie, et en amoindrissant le jeu des principaux organes. Le grand fumeur est ainsi sous le coup d'une intoxication chronique, dont les effets dépendent des conditions suivantes: de la provenance de la substance, de son mode de préparation, de la dose journellement employée, du tempérament et de la condition sociale du fumeur."

Tout ces facteurs concourent donc à amener à une époque plus ou moins lointaine mais certaine l'intoxication chronique par l'opium. Entre temps, le ralentissement des combustions organiques et l'appauvrissement des globules sanguins mettent cet organisme en moindre résistance et prêt à recevoir une intoxication microbienne quelconque, et particulièrement celle qui domine dans la région, le paludisme. Aussi, dès que le Chinois descend des hauteurs de Szémao aux rives du Mékong est-il aussitôt frappé par toutes les manifestations du paludisme.

Il n'y a pas même lutte dans l'organisme; l'envahissement est si rapide qu'en quelques jours l'homme est emporté là où l'Européen résistera pendant plusieurs mois.

Et cette moindre résistance due à l'opium est si vraie que le Chinois qui n'est pas fumeur résiste dans les conditions normales. L'expérience a démontré que parmi les courriers postaux qui font le service entre Szémao et Mongtze et entre Szémao et Muonghou, ne sont malades que ceux qui fument l'opium. Après quelques voyages, ou bien ils meurent, ou sont hors d'état de continuer leur service. Ceux qui ne fument pas vont plus vite et ne sont jamais malades. Les Douanes chinoises ont des courriers choisis dans ces conditions depuis trois et quatre ans qui sont en parfait état de santé.

Pour terminer, j'ajouterai que le fumeur européen devient aussi facilement la proie du paludisme que le fumeur chinois. Il y a quelque temps, il y avait à Muonghou un fonctionnaire français fumeur. Pendant mon séjour dans cette ville, il a eu un accès de fièvre tous les jours. Je prévoyais des suites fâcheuses pour lui à brève échéance, lorsqu'un ordre l'a rapatrié.

La mortalité chez l'enfant n'est pas moins considérable que chez l'adulte. Aussi, indépendamment des épidémies ou des cas isolés de variole à laquelle toute cette région paie un lourd tribu, faut-il rechercher un autre facteur. On est frappé de voir dans les rues, nus ou presque nus, des enfants avec des ventres qui paraissent d'autant plus volumineux que le reste du corps est amaigri, le grill costal très apparent, le facies pâle et maladif. L'enfant s'achemine lentement vers l'athrepsie, le noma, les accidents méningitiques et la mort. Dans la statistique des malades que j'ai vus pendant ces quatre mois, je relève quatre cas d'athrepsie avec noma. Mais combien sont ignorés et combien d'enfants meurent de ce fait?

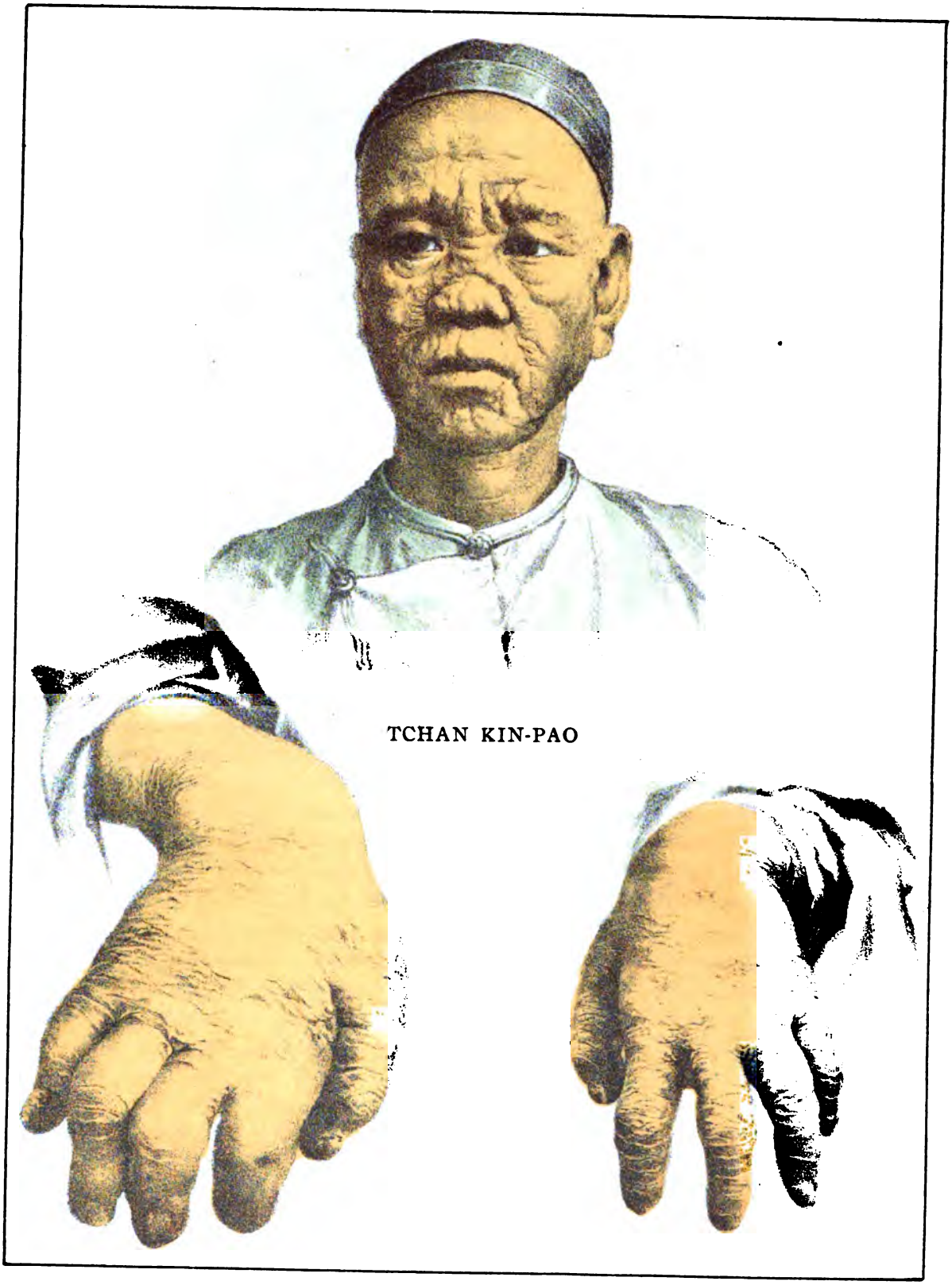
Cet état de choses ne peut avoir son point de départ que dans la mauvaise nutrition à laquelle il est soumis.

Une mère chinoise commence à donner des aliments solides à son nourrisson vers le 2e ou 3e mois. Préalablement elle mastique le riz qu'elle ingurgite ensuite de force en petites boulettes au pauvre enfant. C'est le gavage dans toute l'acception du mot, mais un gavage prématuré. Les troubles gastro-intestinaux font leur entrée en scène puis l'amaigrissement et l'athrepsie. Suivant la résistance de l'enfant, la maladie évolue dans l'espace d'un an avec des intermittences.

Je n'ai eu à constater aucun cas de variole bien que ce soit à cette époque de l'année que la maladie fasse son apparition. J'ai à mon arrivée fait 23 vaccinations dont 20 avec succès.

Le seul cas intéressant la pathologie externe est le suivant: j'étais appelé vers sept heures du soir près d'un enfant, d'environ 14 ans, qui dans l'après-midi avait reçu un coup de couteau au côté droit. La blessure large de 4 centimètres siégeait à 4 centimètres des fausses côtes et à 2 centimètres de l'épine iliaque antéro-supérieure. Elle était couverte de terre et un morceau d'épiploon faisait hernie. Je retirai 6 centimètres environ d'épiploon que j'enlevai après avoir suturé en dessous. Je réunis la plaie, et huit jours après l'enfant reprenait sa vie habituelle, sans avoir eu ni vomissements ni troubles péritonéaux.

Je n'ai été appelé que pour un accouchement. Il s'agissait d'une primipare en travail depuis sept jours, paraît-il. L'enfant, au dire des matrones présentes, était mort depuis deux jours. À l'auscultation, en effet, il me fut impossible d'entendre les battements du cœur. Au toucher, je reconnus une présentation en occipito-sacrée, la tête engagée au détroit inférieur. Je fis sans succès une application de forceps pour dégager en occipito-sacrée. N'ayant pas à ménager l'enfant, je repris le forceps et cherchais à faire la rotation pour obtenir une occipito-pubienne. La rotation se fit légèrement, mais il me fut impossible d'amener l'enfant. La femme était très fatiguée, et je la laissais reposer avant de tenter une autre opération de forceps. Dans l'intervalle, ayant fait une injection de caféine, les contractions utérines disparues depuis deux jours reprirent et l'accouchement eut lieu. La femme mourut quatre jours après de septicémie puerpuérale.



TCHAN KIN-PAO

STATISTIQUE MÉDICALE, AVRIL, MAI, JUIN ET JUILLET 1901.

AFFECTIONS MÉDICALES.	
Fièvre paludéenne simple	79
„ inflammatoire bilieuse	2
Congestion du foie	2
Anémie et œdème	8
Cachexie diarrhéique	1
Embarras gastrique	15
Entérites	8
Dysenterie	3
Diarrhée	9
Bronchites	13
Pleurésie	1
Néphrite et albuminurie	1
Rhumatismes	6
Myxœdème	1
Athrepsie et noma	4
Maladies vénériennes.	
Blennorrhagie	4
Chancre mou	1
Bubon suppuré	1
Paraphimosis	1
Empoisonnements par l'opium	5
Lèpre	1
TOTAL À REPORTER	166

AFFECTIONS CHIRURGICALES.	
Plaies contuses	94
Morsures de chien	1
Coup de pied de cheval	2
Plaies par instrument tranchant	4
Fracture du radius	1
Abcès simples	10
Adénites	2
Epithelioma du nez et de la lèvre sup.	1
Hémorrhoïdes	3
Affections dentaires	5
Cystite tuberculeuse (décès)	1
Blepharo-conjonctivites	4
Kerato-conjonctivites	8
Keratite phlycténulaire	1
Cataracte sénile double	1
Gale	1
Eczéma	3
Impétigo	4
Acné	1
Accouchement	1
TOTAL	148
TOTAL GÉNÉRAL	314
Malades venus à la visite	428

OBSERVATION DE LÈPRE TUBERCULEUSE.

TCHAN KIN-PAO, 26 ans.

Antécédents héréditaires: mère lépreuse, née à Szémao; père non lépreux, mort; oncle maternel, lépreux, mort; grands-parents maternels, non lépreux, morts; grands-parents paternels, non lépreux, morts.

Antécédents personnels: TCHAN KIN-PAO est né à Szémao, où cette maladie est excessivement rare. La lèpre a débuté chez lui à l'âge de 8 ans. Il commence par avoir des tubercules à la face sans avoir eu ni éruption ni taches. Il se souvient d'avoir eu à cette époque de nombreux accès de fièvre et d'avoir ressenti une grande faiblesse générale. Ses extrémités deviennent cyanotiques et les sueurs furent supprimées. Il eut aussi de nombreux épistaxis et du coryza chronique.

État actuel : le sujet a 26 ans et en paraît facilement 40. Toute la face est parsemée de rides et de tubercules. C'est la face *léonine* dans toute sa laideur. L'état général est bon, il n'y a pas d'amaigrissement et les groupes musculaires, sauf ceux des mains, sont intacts. La peau est entièrement écailleuse et ces écailles offrent la teinte cuivrée, mais on ne rencontre aucune tâche. L'insensibilité au toucher, à la chaleur est complète aux membres.

La face est envahie par les tubercules qui sont surtout massés sur le front, aux sourcils et aux oreilles dont le volume est énorme. Les espaces qui séparent les tubercules ont conservé leur sensibilité. Les arcades sourcillères sont soulevées par trois tubercules saillants. Les sourcils ont complétement disparus et la surface est complétement glabre.

La muqueuse pituitaire est le siège d'une sécrétion abondante et d'ulcérations. Les cartilages et les cornets ont disparus en totalité. Ce qui permet d'apercevoir facilement l'arrière-gorge. Par suite de la disparition des cartilages, le nez est affaissé à sa partie moyenne où siège un sillon très profond. C'est le nez en *lorgnette de théâtre.* La pointe du nez et les ailes sont couverts de petits tubercules.

TCHAN KIN-PAO a également de la laryngite lépreuse, et sa voix rappelle celle de la syphilis.

Les lèvres sont épaisses et également infiltrées. Le voile du palais est parsemé de taches noirâtres, qui donnent à cette région l'apparence *de celle du chien.* Toutefois, chez notre sujet, cette coloration est très légère ; mais je tiens à signaler ce symptôme que j'ai retrouvé presque constamment chez les transportés lépreux de la Guyane et qui a d'autant plus d'importance qu'il est un signe de début et partant une donnée précieuse pour le diagnostic. Il est surtout apparent dans la lèpre maculeuse.

Le tronc est normal ainsi que le scrotum. Les rapports sexuels sont supprimés depuis quatre ans.

Les cuisses sont normales, mais les jambes et les pieds sont le siège d'un œdème dur violacé qui donne à cette région l'aspect éléphantiasique. Les doigts de pied sont boudinés. Le pied droit offre deux maux perforants sur le talon antérieur et un sur le talon postérieur. Le talon antérieur du pied gauche est également le siège d'un mal perforant.

Les extrémités supérieures sont moins atteintes qu'on pourrait le supposer en voyant la face. Les mutilations sont à peine au début.

La peau est écailleuse profondément ridée, comme on peut le voir sur les photographies. Les doigts sont boudinés, cyanotiques et les ongles des deux index ont disparus. Les mains ont l'apparence de la main de singe, le pouce étant déjeté en dehors et en arrière.

Au cours de mon séjour à la Guyane, j'eus l'occasion d'être le médecin d'une léproserie de transportés à St. Laurent du Maroni, où j'ai pu faire quelques observations et prendre quelques dessins de mains lépreuses. Sans vouloir affirmer d'une façon absolue que la main lépreuse passe par certaines phases nettement caractéristiques, il est intéressant de voir quels sont les types les plus fréquents.

La première phase en date et par suite la plus commune est celle signalée par les auteurs et correspondant au type Aran-Duchesne. C'est la main simienne avec atrophie des éminences thénar et hypothénar.

Fig. 10.

Fig. 9.

Chute des phalanges

Fig. 6. **Fig. 7.**

Types des mains en patte de grenouille

Fig. 8.—Main ayant passé par la phase de patte de grenouille (chute des phalanges)

Fig. 4.

Fig. 5.

Chevauchement des phalanges

Fig. 1.—Début de la main simienne

Fig. 2.—Main simienne

Fig. 3.—Chevauchement des phalanges

Les fig. 1 et 3 sont les mains d'individus au début de la maladie. Elles sont simiennes et tendent vers la griffe. L'action du long extenseur du pouce est prédominante, celui-ci est déjeté en dehors et en arrière. Dans la fig. 2, la lésion est plus avancée. La main est complétement en griffe, par suite de l'atrophie des lombricaux et des interosseux.

La deuxième phase est caractérisée ou bien par le chevauchement des phalanges les unes sur les autres, fig. 4 et 5, ou bien par le renflement des 3es phalanges. C'est alors ce que j'appellerai la main en *patte de grenouille*, fig. 6, 7 et 8. Cette dernière lésion est plus rare que la précédente.

Quoiqu'il en soit, elles aboutissent toutes les deux à la troisième période, c'est à dire, la chute des phalanges, chute qui débute par l'ongle, atteint la 3e phalange et successivement les deux premières.

Les fig. 9 et 10 sont les deux mains d'un transporté français—TERRAPILIER, No. 5,657. Je n'ai nulle part rencontré un plus beau cas de mutilation symétrique.

J'ai cru devoir présenter ce rapide aperçu, heureux si quelque confrère plus heureusement placé que moi en pays lépreux veut bien compléter cette légère ébauche d'une étude qui mérite l'attention des cliniciens.

614.0951

CHINA.

IMPERIAL MARITIME CUSTOMS.

II.—SPECIAL SERIES: No. 2.

MEDICAL REPORTS,

FOR THE YEAR ENDED 30TH SEPTEMBER 1902.

63rd and 64th Issues.

From

PUBLISHED BY ORDER OF

The Inspector General of Customs.

Oct 11, 1904

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INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,

PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions.

e.—Peculiar diseases; especially leprosy.

f.—Epidemics: { Absence or presence. / Causes. / Course and treatment. / Fatality.

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4— * * * * *

I am, etc.,

(Signed) ROBERT HART,

Inspector General.

To

THE COMMISSIONERS OF CUSTOMS.

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DR. H. RENNIE ROBERTSON'S REPORT ON THE HEALTH OF TIENTSIN

For the Year ended 31st December 1901.

DURING the period under review Tientsin has gradually been recovering from the chaos and disastrous effects caused by the Boxer troubles during the summer of 1900. It might have been naturally expected that the health of the port and native city would have suffered considerably as a result of the siege, the fighting, and the many insanitary conditions that must exist during a period of warfare and where large numbers of troops are hurriedly massed together without due preparation being made for their accommodation. It may safely be said that a very satisfactory state of things existed during the past year, and much of the sickness and epidemics that might have taken place have fortunately been escaped.

Work of the Tientsin Provisional Government.—A great factor in bringing about this healthy condition is the admirable work done by the Tientsin Provisional Government. Immediately on taking office and taking over the government of the Tientsin native city, no time was lost in trying to regulate the sanitation of the city. A sanitary officer was appointed, under whose direction the city, one might say, was well cleaned. Insanitary dwellings were pulled down, thoroughfares enlarged, waterways and drainage were reconstructed. An attempt has been also made to make the citizens notify all cases of infectious disease to the sanitary officer; and the effort is undoubtedly laudable, but it is questionable if at present it is possible to obtain anything like satisfactory results. The native prostitutes have been kept under observation, their houses licensed, and every effort made to prevent the spread of venereal disease. I think it greatly due to the admirable work done by the Tientsin Provisional Government that the general health of the city and communities is due.

Armies of Occupation.—No Health Report for the past year would be complete without a report from the different armies of occupation on the health of their troops. Unfortunately, I am not able to obtain any detailed reports; but it is generally admitted that the health of the troops has, on the whole, been satisfactory. During the autumn the troops of the German army lost a considerable number of men from enteric and dysentery, but I do not think either disease could be said to be epidemic. In the late summer some of the camp-followers of the Indian native regiments were attacked by "relapsing" (famine) fever, and a good number of men succumbed; how it originated, so far as I know, is not satisfactorily explained.

General Health.—The general health of the civil communities has been very satisfactory. Without a proper census it is impossible to give an exact death rate; but taking into account

how few deaths there have been in the past year amongst the residents in the British Settlement and Extra Concession, I should say the death rate is certainly low.

Infectious Diseases.—No epidemics have taken place during 1901. One case of small-pox only has come up for treatment, and was admitted to the Victoria Hospital's new isolation ward. Two cases of diphtheria are to be recorded; one (the case of a missionary) ended fatally, I regret to say. This case was undoubtedly contracted from the Chinese in the country. The other case recorded recovered under treatment by antitoxin.

Enteric.—One case only of enteric has come under my notice during the past autumn, which is a decided improvement upon previous years. A good number of cases of summer diarrhœa occurred, but there were not so many cases of dysentery as in previous years. Considering how many cases of enteric fever and dysentery there were amongst some of the troops quartered in our midst, I think it may be considered highly satisfactory that so little serious bowel disease has to be recorded among the residents of the civil community.

Births.—There have been 17 births.

Victoria Hospital.—40 patients have been admitted and treated as intern patients in the Victoria Hospital.

Malaria.—There has been less malaria than in former years.

Sanitation.—More attention has been paid to the general sanitation of the Settlements than in former years, but still there is much that could be done to improve the general hygiene of the place. Periodically, during the summer and autumn, sanitary inspection was carried out by the Provost Marshal, Municipal Engineer, and Health Officer. Foul, stinking ponds were ordered to be filled in, dwelling-houses and their servants quarters and back premises were inspected, and an attempt made to ensure as healthy a condition of affairs as possible.

Plague.—In the month of November it was found necessary to put the quarantine regulations into force as regards steamers and junks arriving from Newchwang. The military authorities also aided, in lending medical officers to conduct examination of the trains at Shanhaikwan, all passengers being subjected to examination who arrived from Newchwang. At Taku the Tientsin Provisional Government assisted the Commissioner of Customs in carrying out the quarantine work. All junks and steamers were carefully examined, and fortunately, so far, we have escaped this terrible disease. I would here like to urge the great importance of sparing no expense to try, so long as it is possible, to keep plague from our doors. The Health Officer should have a free hand, and everything should be in readiness to cope with the disease should it be brought into the port.

Obituary.—It is with great regret that I record the death of Dr. ANDREW IRWIN, F.R.C.S.I. Dr. IRWIN was well known all over China and much beloved by his many friends. Few medical men of greater brain talent have ever come to the Far East. He was for many years the medical adviser and attendant, as well as personal friend, of the late Viceroy LI HUNG-CHANG. The foundation and inauguration of a medical college was brought about by

Dr. IRWIN's exertions, and for many years he worked hard to make it a success and to introduce European medical and surgical science into China. His death has been a great loss to Tientsin, where, I fear, we shall never see his like again.

METEOROLOGICAL TABLE, 1901.

MONTH.	BAROMETER.	THERMOMETER.		MONTH.	BAROMETER.	THERMOMETER.	
		Maximum (Average).	Minimum (Average).			Maximum (Average).	Minimum (Average).
	Inches.	° *F.*	° *F.*		*Inches.*	° *F.*	° *F.*
January	30.55	28	12	July	29.85	86	72
February	30.52	36	19	August	29.76	82	72
March	30.37	55	32	September	30.16	76	65
April	30.11	68	48	October	30.34	61	48
May	30.09	76	58	November	30.41	48	34
June	29.87	84	69	December	30.51	31	19

DR. J. A. THOMSON'S REPORT ON THE HEALTH OF HANKOW

For the Year ended 31st December 1901.

CLIMATIC CONDITIONS.

CONCERNING the climatic conditions prevailing during the year, the special features to be noted were (*a.*) the abnormally dry spring with frequent northerly gales and sandstorms, (*b.*) the exceptionally cool but wet summer, frequently broken by strong gales and heavy rains, and (*c.*) the extensive flood all along the Yangtze Valley.

The year began with cloudy, wet, and disagreeable, and ended in clear, bright, and frosty, weather. Throughout the greater part of summer and autumn a condition of flood prevailed; in this neighbourhood the country was immersed for miles on either side of the river. The Concessions stood too high to be completely flooded, but during July and the early part of August all drains were full of water, and water covered the sidewalks to a depth of about a foot in most parts of the Settlement. Drainage was therefore at a standstill; but owing to the liberal use of chloride of lime by the sanitary authorities, stenches and odours were practically *nil* and the stagnant water retained a comparatively high degree of purity. On the subsidence of the water prompt measures were taken to free the drains and streets from the slimy deposit of the flood, and chloride of lime was freely sprinkled into the drains and over the drying streets, thus reducing a potent source of disease to a minimum.

The summer, although comparatively cool, was neither a pleasant nor a healthy one, owing to the high degree of atmospheric humidity and the great and rapid changes in temperature caused by frequent typhoons.

Mosquitoes were particularly numerous, but although I could find very few adult Anopheles about, I was successful in finding their breeding-places, viz., in small pools by the side of small streamlets flowing into the larger ponds on the New Extension. In many of these pools I could find in a very short time as many Anopheles larvæ as I chose to collect, and by keeping them in jars of water covered over by mosquito netting, bred out many specimens of the adult insect; but not possessing sufficient entomological knowledge, I will not venture to name the exact species. However, the thick body of the larva, devoid of anal breathing tube and floating horizontally on the surface of the water, the striped wings, straight body, and long antennæ of the imago declared them to be distinctly Anopheles; and considering the ease with which I could get larvæ, I take it that many thousands of Anopheles must breed out daily during the summer months within and around Hankow, and that they must be much more plentiful than a search for the adult specimens would lead one to suppose.

GENERAL HEALTH OF THE COMMUNITY.

The general condition of health was, on the whole, worse than during average years. Throughout the months of spring, when we were subjected to abnormally dry weather and

frequent sandstorms, many people suffered from a low form of remittent fever; and later on, during the wet and steamy weather of summer, enteric, severer forms of malaria, diarrhœas, dysentery, and liver disorders prevailed. There were a few cases of heat exhaustion, but none of heatstroke. Winter and late autumn were fairly healthy seasons.

There was no epidemic of any contagious disease. One family arrived from Shanghai with a child suffering from scarlet fever, and within 10 days of their arrival all members of the family, including both parents, contracted the disease; but its spread was limited to the one household and did not extend to any other families. Small-pox raged as usual during spring amongst the native population, but foreigners, with one exception, escaped.

I give below a tabular statement of the major cases of sickness I met with during the year; it includes cases of more severe sickness requiring hospital or special home treatment, and is exclusive of the numerous cases of mild remittent fever prevalent throughout the community and cases of accident, and is intended to give one some idea of the forms of disease met with here:—

Month.	Residents.		Non-Residents.	
	Disease.	No. of Cases.	Disease.	No. of Cases.
January	Typhoid fever	1	Typhoid fever	1
	Acute rheumatic fever	1	Abscess of liver	1
			Phthisis	1
February	Typhoid fever	1	Acute bronchitis	2
			Malaria	1
March	Remittent fever	7	Typhoid fever	1
	Peripheral neuritis	1		
April	Remittent fever	3	... ...	...
	Malaria	2		
May	Malaria	1	... ...	...
	Remittent fever	1		
June	Small-pox	1	Malaria	3
	Malaria	2	Pleurisy	1
	Abscess of prostate	1	Congestion of liver	1
	Congestion of liver	1		
July	Acute dysentery	3	Heat exhaustion	2
	Congestion of liver	1	Remittent fever	2
August	Choleraic diarrhœa	2	Meningitis	3
	Congested liver	1	Typhoid fever	4
	Dysentery	1	Malarial fever	3
	Malaria	2	Phthisis	1
			Heat exhaustion	2
			Hæmoglobinuric fever	1
			Congested liver	1
			Acute appendicitis	1
September	Acute dysentery	2	Phthisis	1
			Congested liver	1
			Typhoid fever	3
			Malarial fever	2
October	Dysentery	1	Acute dysentery	3
	Alcoholic cirrhosis	1	Typhoid fever	3
	Typhoid fever	2		
	Carbuncle	1		
November	Malaria	2	Congestion of liver	1
December	Typhoid fever	1	... ...	...
	Scarlet fever	7		

Deaths registered during the year numbered 18:—

CHILDREN.		ADULTS.	
Remittent fever	2	Cancer of œsophagus	1
Malarial cachexia	1	Typhoid fever	3
Heat exhaustion	1	Meningitis	2
Scarlet fever	1	Alcoholic cirrhosis	1
		Dysentery	1
		Phthisis	4
		Ulceration of bowels	1

Of these, four children and eight adults were residents of Hankow.

NOTES ON SPECIAL CASES.

1. REMITTENT FEVER.

During spring there were numerous cases of mild malaria, and coincidently with them, many cases of an obscure remittent fever, similar, I take it, to the unclassified fevers of India and elsewhere.

Amongst adults, with a few exceptions in which the disease was acute, it was prone to follow a low type, with daily variations of temperature from about 99° F. to 100° or 101° F. The rise of temperature was quotidian in rhythm and in a few cases two rises were observed daily. It was accompanied by febrile symptoms, such as flushes of heat or cold, languor and general malaise, but was not of sufficient severity in most instances to prevent the sufferer from continuing his or her duties.

Frontal headache during the forenoon or evening was a fairly constant symptom, also slight perspiration as the symptoms subsided. In a certain proportion of cases, after the disease had progressed for about 10 days or thereby, bilious stools and slight yellowness of conjunctivæ were noticed, but these were not associated with any tenderness or appreciable enlargement of the liver and did not lead to any serious liver complications, except in one case in which the febrile condition was more acute and persistent, and which developed acute congestion of the liver during the journey to Japan, where the liver was freely aspirated, on the assumption that the case was one of liver abscess; none such was found, but the aspiration was successful in restoring healthy liver function and, after a prolonged stay in Japan, a complete freedom from fever.

The duration of the disease was variable, from two or three weeks in some cases, up to two or three months in others, and in two cases upwards of 10 months.

The above was the prevailing type amongst adults, but amongst children, and also in a few cases amongst adults, febrile symptoms were acute, with daily temperatures varying between 100° F. to 103° or 104° F. Emaciation and anæmia were pronounced, but in comparison with the high range of temperature the degree of suffering was remarkably slight. The

duration varied in the different cases from five to eight weeks. Typhoid symptoms and signs were conspicuous in their absence. None had distended abdomen, iliac tenderness, peasoup stools, drowsy apathetic expression, odour or spots of typhoid. Widal was negative, except in one case where an incomplete reaction was given, viz., positive in 1 in 10, but negative in 1 in 30 dilution. The tongue was slightly furred, and although kept on rigid typhoid diet all cases had an appetite for something more. Free sweating was met with in all cases, requiring frequent changes of clothing. The spleen was usually palpable.

Quinine, euquinine, and guaiacol were all singularly ineffective. The first of these I pushed in large doses, by mouth, per rectum, and hypodermically; but with unsatisfactory results, unless it prevented the development of more severe symptoms.

Only two cases out of the many proved fatal, both were children and in both death was due to hyperpyrexia.

Concerning the blood examination in these cases, there exists a difference of opinion amongst those who have had the opportunity of making examinations, and it is in deference to that opinion that I write of the disease under the name of "remittent fever." Invariably I found intracorpuscular parasites—small, indistinct, mobile, and unpigmented,—and that the disease is a form of hæmamœbiasis I think there can be no doubt. It is unnecessary for me to go into the subject further, as a detailed report of these parasites will be found in my brother's article in the Customs *Medical Reports* for the half-year ended 30th September 1900 (60th Issue).

In the present state of medical knowledge, at least three forms of the family of Hæmamœbidæ are known to infect the blood of man, viz.:—

(*a.*) Hæmamœba malariæ of quartan fever.
(*b.*) Hæmamœba vivax of tertian fever.
(*c.*) Hæmomenas præcox of æstivo-autumnal fever.

But with none of these does the parasite found in the majority of fever cases here strictly conform, and the nearest approach to it that I can find is the unpigmented malignant parasite of which mention is made in Dr. MANSON'S *Text-book of Tropical Diseases*. All our observations have been made on specimens of finger blood, and we have never yet detected the crescentic form of the gametocyte; but in the light of Dr. MANSON'S statement, viz., that in cases of infection by the unpigmented malignant parasite crescents are very difficult to detect in finger blood, we will not deny that they occur in the fever most generally met with here.

The clinical features of the disease are those of hæmamœbiasis, its persistent character and resistance to quinine mark it malignant, and its parasite in general features most closely resembles the genus Hæmomenas. It is a noteworthy fact, too, that it only became prevalent when the extensive operations in connexion with the filling in of the new Concessions commenced.

In comparison with the number of cases of the above form of remittent fever, cases of the ordinary forms of malaria are few here. Quartan fever I personally have never seen. In September I had a case of true tertian ague, accompanied during the hot stage with continuous bilious vomiting; it was contracted in Nanking, and yielded very easily to quinine hypodermics.

Of æstivo-autumnal fever, one case deserves special mention, since it developed what must be a very unusual feature in so northern a latitude, viz., hæmoglobinuria. Patient was a member of the Catholic Mission of Hupeh. He arrived from Italy four years ago. Had never to his knowledge suffered from malaria at home. In China he had been stationed in various posts in different parts of Hupeh. All his posts were small stations situated in rice-growing country, and during each summer since his arrival in China he had suffered from fever. During these previous attacks he had taken quinine freely at the commencement, and by so doing held them in check. On his arrival at Hankow, in August of this year, the report he had to give me was as follows:—Six weeks previously fever set in; at first the attacks came on every day, and subsequently every other day. Each attack was preceded by a rigor and ended in profuse perspiration. During the hot stage his thermometer had frequently registered 41° C. He had no quinine with him, but had taken freely of the only medicine he had, viz., citrate of magnesia. The fever had gradually subsided, and feeling better, but weak, he had decided to come in to Hankow for rest and attendance. He was extremely anæmic and sallow in complexion, and the spleen was easily palpable.

I admitted him to hospital for observation. On the day of his arrival there was no rise of temperature; on the second day it rose to 100°.2 F., but without any subjective symptoms; on the third day it was again normal. When I saw him on the morning of the fourth day there was no rise; but about 3 P.M. I was urgently called to see him, and the change I saw in him since my former visit was truly remarkable. He was pinched and shrunken, and as he lay curled up in bed, looked the picture of misery. His skin and conjunctivæ were stained a bright lemon-yellow colour, and the account I got from the Sister in attendance was as follows: about 1 P.M., whilst sitting up at tiffin, he had been seized with a rigor, and thinking it was one of his former attacks come back, he did not think it worth while sending for me until over an hour later, when he became alarmed by the passage of a small amount of black urine. By the time I arrived he had passed about a pint of the above. Its colour was a deep purple black, quite opaque when examined in a test tube, and on standing it separated into the layers characteristic of black water fever. Examination of the finger blood showed numerous malarial crescents, as many as three or four in one field of the $\frac{1}{8}$-inch objective. His temperature registered 104° F. I at once gave a hypodermic of 10 grains of sulphate of quinine, dissolved by the aid of dilute hydrochloric acid, applied hot bottles over the loins, and after covering him up in warm blankets, left him, with instructions to the Sister to give 10 grains of quinine sulphate by the mouth after two hours; this I again repeated on my return at 7.30 P.M., thus giving in all 30 grains of quinine in the space of four and a half hours, 10 grains of which were by hypodermic injection. He had passed several small quantities of black urine during my absence.

Next day the highest temperature registered was 100° F.; the urine was of the opacity and colour of very dark beer; and he was kept on 10 grains of quinine by mouth every fourth hour. On the fourth day temperature rose to 101° F.; urine still of the appearance of dark beer. On the fifth day temperature kept normal; urine clearer and resembling port. Quinine was still kept up in 10-grain doses every fourth hour. Temperature never rose above normal again; urine became clearer and clearer every day, and by the seventh day ceased to be albuminous. Quinine was continued in gradually reducing doses for three weeks, when he was put on a

tonic mixture containing iron and arsenic. A month later he called to see me. He was looking well and had gained in weight; the spleen was still palpable, but much reduced; he was less anæmic, and, on examination, crescents were still to be detected, but required careful looking for.

Up country, while his fever lasted, patient had not taken quinine, and had taken only citrate of magnesia, the one drug he had in his possession. In hospital he had taken no drug whatsoever until his hæmoglobinuric attack came on. Crescents were remarkably numerous, and I cannot believe that the attack was other than a manifestation of a severe and untreated malarial infection. To ascribe it to quinine poisoning, as certain observers who write on the subject of hæmoglobinuric fever do, was in this case impossible, as none had been taken, but on the contrary, the patient recovered and improved on its free exhibition.

2. Typhoid Fever.

During the year 17 cases of typhoid were treated, and of these, five were residents of Hankow and 12 were non-residents. The non-residents, with one exception, were blue-jackets from the gun-boats stationed here.

Of the 17, three ended fatally. Two of the fatal cases were in stout, flabby subjects, and the most serious feature in both cases was the weak and irregular character of the pulse from the commencement. The third case was acute from the beginning, with an average temperature of 104° F. throughout the first week; abdominal distension and diarrhœa were distressing symptoms. During the second week severe abdominal symptoms continued, but the temperature kept, on an average, at 102° F., until the 14th day of the disease, when it rapidly, with a rigor, rose to 105° F., owing to the development of right parotitis. On the following day (*i.e.*, the 15th of the disease) the temperature fell to 100° F.; but again, on the 16th day, preceded by another rigor, it rose to 105° F. with the onset of left parotitis. For two days hyperpyrexia required all our efforts to combat, the parotids swelled so that the jaw became fixed and feeding extremely difficult, and early in the morning of the 19th day death took place. At the autopsy extensive typhoid ulceration of the bowel was met with, and also numerous mesenteric glands in a state of suppuration. The parotids, enlarged to the size of ducks eggs, were, on section, found to be deeply congested and spotted throughout with points of commencing suppuration varying in size from a pin-head to a pea. The case was one typical of pyæmic typhoid.

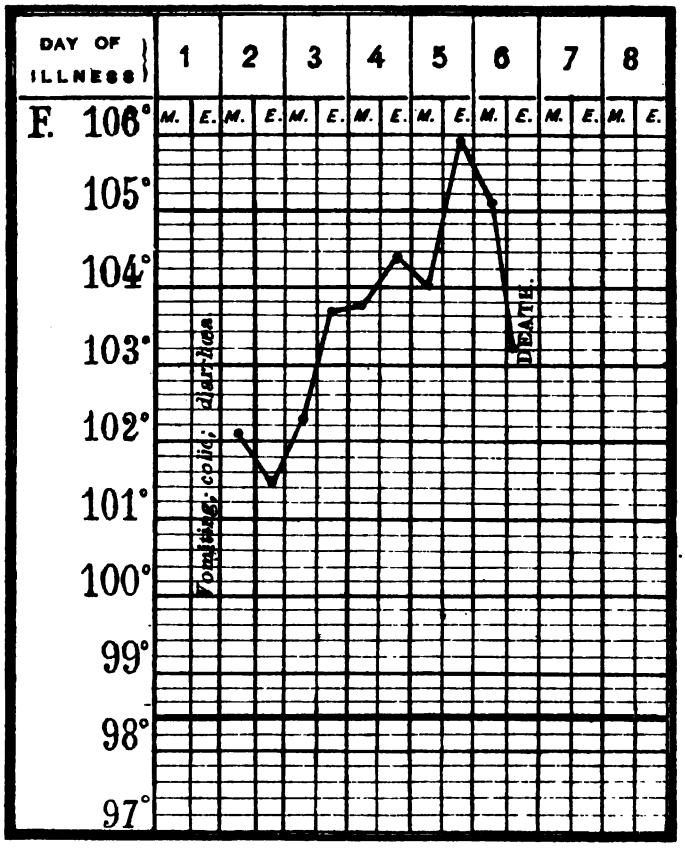
Considering the deplorable condition of the native dairies from which many people obtain their milk here, it is surprising to find so few cases of typhoid amongst the residents, and one can only account for such comparative immunity by the very general practice of boiling milk before use—a procedure which all in charge of messes cannot be too careful about, for I believe that raw milk as supplied by these dairies is a veritable poison. Last summer I made an inspection of six native dairies; some of these were situated on the new British extension, the others just inside the native city. In none was there the slightest attempt at sanitation or drainage. In none were cows kept in separate stalls, but in all the cows were huddled

together side by side, touching each other, the apparent object being to pack as many cows into the smallest space possible. The animals stood knee-deep in mud and manure, and so closely were they packed together that it was a physical impossibility for any of the animals to lie down. Along the centre of each cowshed there was a pitiable attempt at a drain; this ended in a cesspool inside the byre, and, true to native usage, the most convenient place for the storage of bottles, milk, and water was on a table by the side of, or in some cases actually spanning, the cesspool, an arrangement by which the man in charge was able to wash his bottles, throw the washings away, and fill up with milk with the least trouble to himself. The whole place stank with the ammoniacal odour of decomposing urine and manure, and to such a degree as to cause one to gasp on entering. There were no arrangements for filtering water, and the water used for washing and adulteration was ordinary river water partially clarified by settling in kongs. In one place we found over three dozen bottles each about a quarter full of water, representing the limit of the man's idea of adulteration; and the same individual on our entry was engaged grinding white beans and water together into a milky-looking liquid, by means of an apparatus similar to that used by native farmers in crushing grain. He explained he was making food for the cows; but from what we saw I am confident that had the man worked steadily all day, he could not have prepared, by his method of working, sufficient of the compound to supply the needs of one animal. Owners and their families cooked food and slept in rooms only partially detached from the cow-houses; these rooms were dark, unventilated, close, and smelling, and would have been overcrowded had they been inhabited by half the number of occupants.

Such is the condition of the native milk supply, and little better can be said about the butcher meat supply. Butchers shops, with one or two exceptions, are situated inside the native city and are freely open to the streets. The meat exposed to sale is in no way protected from the odours or street flies which hover about it. The exceptions mentioned are also native-owned, but are situated on the borders of the Concession in semi-foreign buildings; meat in them is not so directly exposed to the odours and flies of native streets, but is otherwise no better taken care of. The slaughter-house, situated about a mile within the city, is one of the most offensively filthy places it has been my lot to see even in China. It is approached over stepping-stones through a bed of semi-liquid manure; the floor is of mud and saturated with the blood and offal of generations of animals; knives are not over clean; hooks and benches upon which meat is hung or laid are coated with an offensive crust of coagulated blood and grease. There is no separate accommodation made for the stalling of animals, and at the time of my visit several buffaloes were tied up to posts in the slaughter-room awaiting next day's slaughter. All kinds of animals are slaughtered there, both for native and foreign consumption, and foreigners in Hankow have to rely solely upon the honesty of the native dealer as to whether they are supplied with ox or buffalo meat, or meat from a healthy or unhealthy animal.

Licensed dairies, butchers shops, slaughter-house, and laundries are all crying needs in Hankow, and ought to take first place in any of its sanitary reforms. In fairness to the present laundrymen, however, it must be stated that cases of contagious skin diseases, such as could be contracted from clothing badly washed, are rare amongst the foreign community of Hankow.

CHART Nº 1.


DAY OF ILLNESS
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103°
102°
101°
100°
99°
98°
97°
Vomiting; colic; diarrhea
DEATH.

3. MENINGITIS.

Between the 2nd and 7th August five cases of meningitis, four of which proved rapidly fatal, occurred on board H.B.M.S. *Redpole*, stationed at Kiukiang. Three of these were sent to Hankow Hospital and came under my observation here, and of these three, two were moribund on arrival and died soon after admission to hospital, the third (and only one out of the five) recovered. The two moribund cases, as I first saw them, presented a very marked clinical contrast, and a certain diagnosis could only be made after death. In one the countenance was deeply cyanosed, breathing of Cheyne-Stokes type, pulse almost imperceptible, signs of pulmonary congestion, tongue dry, shrivelled, and ulcerated, pupils contracted and corneæ ulcerated, temperature 103°.2 F.; he presented a condition of cerebral congestion and died within six hours. The other had a pale, drawn appearance, shallow and feeble respiration, almost imperceptible pulse, dilated and immovable pupils, dry, shrivelled tongue, temperature 103°.5 F.; he was in a condition of syncope and died early on the following morning. Their appearance, and the history of other two cases having died on the same ship in a similar way a few days previously, caused me to suspect plague, and I had them placed in an isolation ward. None had buboes.

As the cases are of uncommon interest, I give below notes of each in detail. These notes I have made from information subsequently furnished me by Dr. SHEWARD, of H.B.M.S. *Redpole*, and from my own observations of the cases in hospital.

The previous movements of the ship were as follows: it left Kobe on the 13th July, after a fortnight's stay there; from Kobe it proceeded to Nagasaki, where it remained from the 16th to the 20th July; then on to Shanghai, where it stayed for two days, 23rd and 24th July; arrived at Kiukiang on the 30th July, after experiencing very boisterous weather on the way up river.

On the day after leaving Shanghai one man died, but I have no information as to the cause of his death. He was buried at Nanking on the 27th July.

At Kiukiang the highest temperature recorded previous to any of the cases of meningitis taking place was 90° F. in the shade.

CASE I (*see* Chart No. 1).—Age 23; rating, A.B.; physically, short but well built and athletic. Occupied on board as "special leadsman," and, as such, had been exposed to drenching rain on four occasions between Shanghai and Kiukiang. Had been last ashore at Nanking attending a shipmate's funeral, and previous to that had not been ashore since the 7th July, at Kobe.

2nd August.—Illness began on the evening of 2nd August, with vomiting, diarrhœa, and intestinal colic.

3rd August.—Vomiting, diarrhœa, and colic. Temperature 102° F. in the morning. Was given calomel and opium.

4th August.—Frontal headache complained of. Still vomiting and suffering from colic; diarrhœa less frequent. Treatment: milk diet; 20 grains bromide of potassium in the morning and repeated at noon; 5 grains calomel at night.

5th August.—Had slept well and felt better. Less headache, no abdominal pain or tenderness, bowels loose, tongue coated, lips dry, sordes on teeth, rigors at times, and a tendency to wander in his mind. Was given 10 grains sulphate of quinine twice daily and cold sponging. Pulse 108, good and regular.

6th August.—Delirious. Was given wet packs, and a turpentine enema which brought away a "peasoup" stool. Highest temperature 106° F.

7th August.—Patient still delirious and more feeble, and by 5 P.M. almost pulseless. Hypodermics of digitalis, strychnine, and ether failed to stimulate. He sank rapidly and died at 8.30 P.M.

No postmortem was held.

CASE II (*see* Chart No. 2).—Age 19; rating, ordinary seaman; physically, well made.

4th August.—Complained of headache in the morning. Temperature 101°.6 F. Was given 10 grains sulphate of quinine and sent to bed. At 2.30 P.M. he fainted on coming from the water closet. Was given 4 grains calomel and 1 grain opium.

5th August.—Bowels not opened; headache and dazed in manner. Was given 20 grains bromide of potassium. At 6.30 P.M. was seized with severe colic and lost consciousness. Given soap and water enema which brought away a large offensive stool.

6th August.—Unconscious; convulsions from time to time; Cheyne-Stokes respiration. Mucus had to be continually swabbed from the throat. Died at 10 P.M.

Autopsy.—Done on board ship. Two lumbricoids found in intestines, but otherwise all abdominal organs appeared to be normal. Bladder distended; kidneys normal; lungs filled with frothy mucus. Lumbricoid worm, 7½ inches long, found in left pleura with over half a pint of dark fluid; appearance of a hæmorrhage at left apex. Skull not opened.

CASE III (*see* Chart No. 3).—Age 24; rating, A.B.; physically, rather slender in build, but wiry and always in good health. Employed on board as "special leadsman," and, like Case I, had been exposed to repeated drenchings between Shanghai and Kiukiang. Last ashore at Kobe.

5th August.—Was seized in the evening with vomiting, diarrhœa, and abdominal colic, but did not see his doctor until the following morning.

6th August.—Temperature 99° F. Vomiting and diarrhœa still going on; colic improved. Was given 1 ounce castor oil and 10 minims tincture of opium.

7th August.—Severe headache; bowels loose from the oil of the previous day. A tendency to hyperpyrexia throughout the day requiring a continuous cold wet pack. He kept perfectly rational and was able to take liquid nourishment every hour.

8th August.—Mildly delirious, otherwise symptoms and treatment same as on previous day.

9th August.—Unconscious; passing motions unconsciously; constant picking at bedclothes. Given turpentine enema which removed a small liquid stool. Continuous wet pack.

10th August.—In similar condition as on 9th. Removed on board H.B.M.S. *Woodlark* for conveyance to Hankow Hospital.

CHART Nº 2.

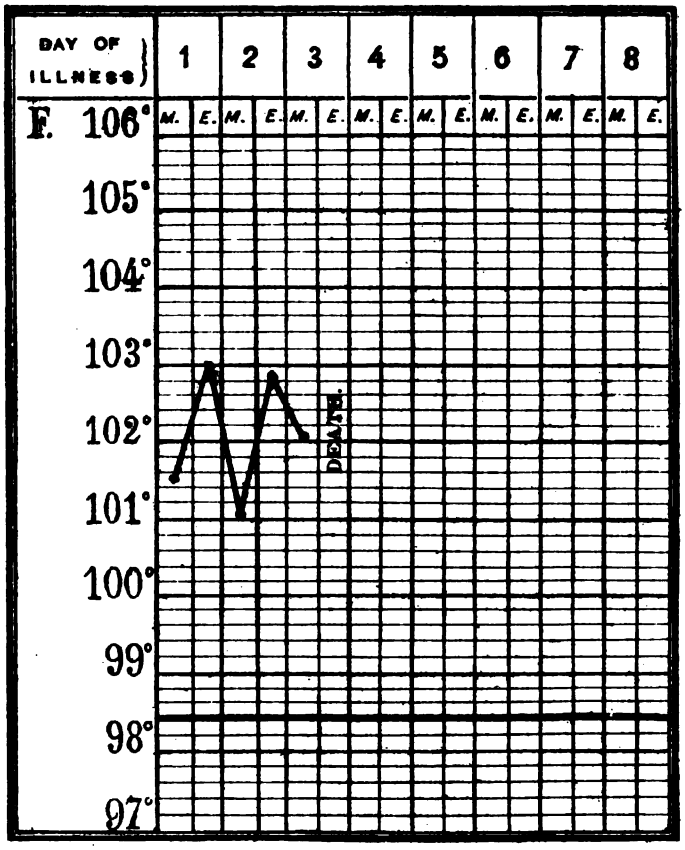
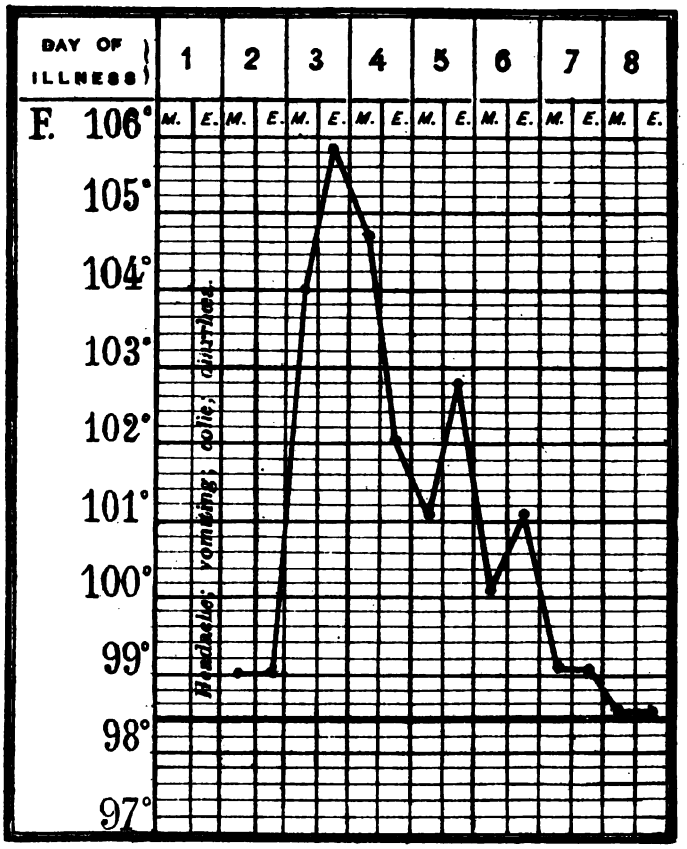


CHART Nº 3.



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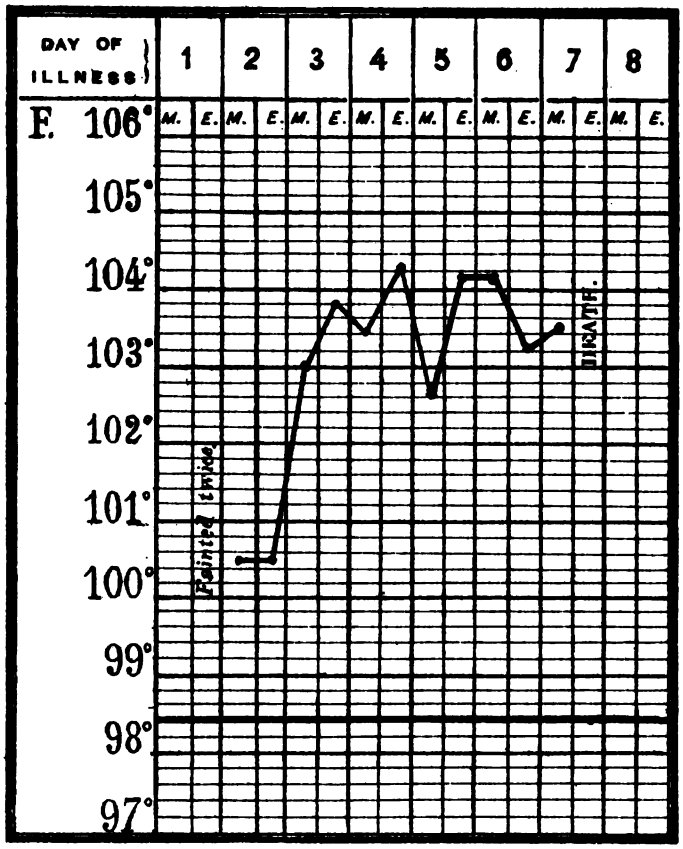
DAY OF ILLNESS
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M.
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F. 106°
105°
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102°
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100°
99°
98°
97°
Fainted twice
DIRATIF.

11th August.—Not quite so unconscious; will reply when spoken to sharply, but always seems to be in a dazed state. Lies all day picking at bedclothes, but takes nourishment readily.

12th August.—Awake and fairly sensible. Takes plenty of milk, but continues to pass motions unconsciously.

13th August.—Arrived at Hankow and admitted to hospital. Lies on back gazing in a vacant manner at the ceiling; continues to pick at bedclothes and takes no notice of what goes on around; reflexes all imperfect; is unconscious of stool passing; answers "Yes" or "No" in a vacant, semi-unconscious manner to questions asked sharply and shouted at his ear. Swallows, apparently without knowing it, milk and other liquid nourishment placed to his lips. Gives one the general impression of a man who has just recovered from a condition of grave mental and physical shock. Lies absolutely still, without moving or attempting to move. His replies to questions seem to come in a reflex manner rather than as the outcome of a mental effort. Temperature normal, pulse regular but feeble.

From now onwards his convalescence proceeded slowly, and was characterised by great physical weakness, a childishness of mind, and stammer in speech. It was upwards of two weeks before he seemed to begin to show interest in his surroundings; his speech was slow and indistinct, owing to a very pronounced stutter; his mind was that of a child. But improvement went on steadily, and when I sent him back to his ship, six weeks later, he was fairly strong physically, stammer had almost gone from his speech, and he seemed to have recovered most of his mental faculties; but he was too weak to take up his ship duties, and had therefore to be invalided to a Naval Hospital. He was the only one out of the five who recovered.

CASE IV (*see* Chart No. 4).—Age 21; rating, A.B.; physically, a weakly subject. Frequently suffered from rheumatism and peripheral neuritis affecting middle and ring fingers of both hands, and a similar condition of the toes caused him to walk with a limp.

Present illness commenced on the 7th August, when, according to his own statement, he had fainted twice during the day; but it was not until the following morning that he consulted his doctor.

8th August.—Only complaint was a feeling of dizziness. Temperature 100°.6 F.

9th August.—Tongue very foul; bowels constipated; mental condition drowsy and stupid. Temperature nearly 104° F. Was kept in a wet cold pack, and a soap and water enema brought away a large offensive motion.

10th August.—At midnight he had a severe epileptiform seizure, lasting nearly two hours and followed by great collapse, necessitating hypodermics of ether, strychnine, and digitalis.

11th August.—Transferred to H.B.M.S. *Woodlark* for conveyance to Hankow. Pulse fair, but patient in comatose condition. Pus in the conjunctivæ and tip of tongue ulcerated. Motions passed unconsciously. Retention of urine, which had to be drawn off with catheter.

12th August.—Pulse weak and running; beats could not be counted. Had to be fed per rectum. At 10 A.M. had a convulsive seizure lasting 15 minutes, and affecting right side of face and right arm. Towards evening, after hypodermics of digitalis and ether, there was a slight improvement in the pulse.

13th August.—Admitted to Hankow Hospital in a moribund condition. Countenance cyanosed, corneæ and tongue dry and ulcerated, pupils small and immovable, all reflexes diminished or absent, pulse running and scarcely perceptible. Temperature 103°.6 F. Stools passing in bed; urine retained. Signs of pulmonary congestion. Ice caps, cold sponging, stimulating hypodermics, all ineffective, and patient died that same day.

Autopsy.—Similar to the following case, under which it is described.

CASE V (*see* Chart No. 5).—Age 21; rating, A.B. Previous history of Malta fever in 1897.

6th August.—In the morning complained of headache. No rise of temperature. Was given 10 grains quinine and sent off duty.

7th August.—Diarrhœa and vomiting. Temperature 101° F. Given 4 grains calomel and 1 grain opium.

8th August.—Bowels very loose. Quinine continued. Headache severe and temperature 103°.6 F. in the evening.

9th August.—Slept well, but had intense headache in the morning. Very thirsty and bowels still loose, but no colic. Temperature rose to 105°.2 F.; so was given cold bath, to which he walked himself and appeared to be perfectly rational.

10th August.—A tendency to hyperpyrexia throughout the day. Mental faculties clear. Quinine and cold baths continued.

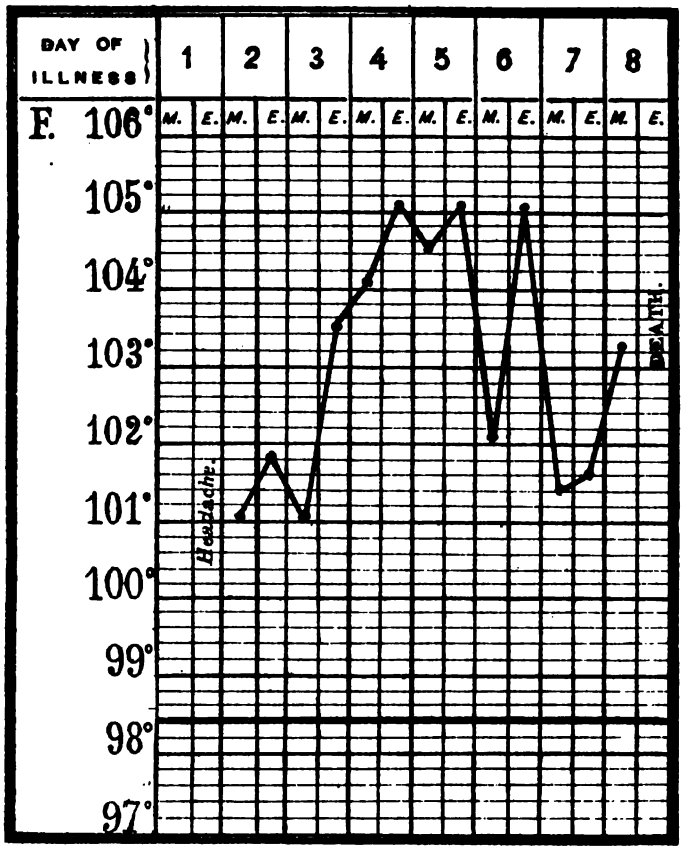
11th August.—Wandering in his mind during the morning, and quite unconscious when taken on board H.B.M.S. *Woodlark* later in the day for conveyance to Hankow. Tongue furred; stools passed in bed, peasoupy and offensive. Restless and requiring control to be kept in bed.

12th August.—Slept little; was sweating freely overnight and very restless. Motions very offensive.

13th August.—Admitted to Hankow Hospital in moribund condition. Face drawn and pale; breathing slow and shallow; pulse running and could not be counted; pupils dilated and fixed. Tongue dry and shrivelled; could not swallow; reflexes abolished. Kept continually picking at bedclothes and subsultus was pronounced. Temperature 103°.2 F. Stimulants failed to act, and he died early next morning.

Autopsy.—Autopsies were held on both Cases IV and V, and in each revealed a similar condition. All abdominal organs were healthy; bowels contained liquid, yellow, offensive material. Urinary and gall bladders distended, spleen not enlarged, kidneys healthy, lungs congested, and heart normal. It was not until the calvaria were opened that a cause of death could be found. Dura mater was adherent to skull over the vault. Meninges were intensely congested, and showed a milky opacity in the areas between the great veins and a still more marked opacity along the margins of these veins. Amongst this opacity were numerous areas of small tubercles, varying in size from a pin-head to a millet seed and in colour from translucent grey to yellow, thus resembling in appearance the early stages of tubercular infection. These appearances were confined to the vault, and the tubercles were

CHART Nº 5.


DAY OF ILLNESS
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M.
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106°
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101°
100°
99°
98°
97°
Headache.
DEATH.

situated in the subarachnoid space. Along the margins and neighbourhood of the longitudinal fissure and fissure of Rolando tubercles were more plentiful and the milky opacity more apparent than elsewhere. The base of brain and cord were free from such appearances and there was a considerable quantity of turbid cerebro-spinal fluid. Inoculations of cerebro-spinal fluid into rabbits proved negative, and cultures could not be made owing to lack of a suitable medium.

4. PHTHISIS.

It will be noticed that four deaths occurred during the year from this cause, but it must not be inferred from this that phthisis is a prevalent disease in Hankow. None were recent cases, but all had been going on for several years, culminating during the moist and steamy weather of summer in general tuberculosis. Three were amongst the Sisters of Charity, who, owing to their in-door life and close contact with all manner of Chinese, are particularly liable to tubercular infection. The fourth had recently arrived from Europe already suffering from advanced phthisis, and when he came into hospital here both lungs were in a condition of general tubercular infection with profuse expectoration and hæmoptysis, remittent temperature running as high as 103° and 104° F., exhausting night sweats, and diarrhœa.

The reason for the rapid advance of all these cases I attribute to the very moist and steamy weather during summer.

DR. DAVID BROWN'S REPORT ON THE HEALTH OF WUHU

For the Year ended 31st March 1902.

THE general health of the foreign community in this port has been, on the whole, satisfactory for the period under review.

One death occurred—a child aged 16 months, from convulsions.

During the summer the flood which occurred swamped the low-lying country adjacent to Wuhu, and, as a consequence, many of the refugees took up their abode in our near neighbourhood. Matsheds closely huddled together on every available hillock formed the temporary abodes of these destitute people. With a prolonged spell of damp, hot weather and the depressing influence of the floods, it is not to be wondered at that minor ailments were more numerous than usual.

Amongst foreigners 15 cases of malarial fever came under my notice. Most of these were of a mild type, but in two or three the remittent form, with severe headache (chiefly occipital), insomnia, abdominal symptoms, furred tongue, and early prostration, occurred. This type lasts about eight or nine days, and convalescence in one of the cases was somewhat protracted. The treatment was large doses of castor oil at the outset, and moderate doses of quinine hydrochlorate three times daily. Sulphonal was given with success for the sleeplessness.

In September diarrhœa of a mild type was prevalent. Those cases taken at the onset yielded to a simple treatment with castor oil, rest, and a suitable diet.

In the same month also a few cases of dysentery appeared, chiefly among visitors to the port. None of these were of a severe character, and in all the ipecacuanha treatment was given with good results.

Other diseases amongst foreigners, resident and visitors, treated during the year were bronchitis, boils, carbuncles, chancres, conjunctivitis, compound fracture of the nasal bones, gastralgia, gonorrhœa, gout, iritis, liver chill, neuralgia, pleurisy, pleurodynia, sciatica, and various wounds.

One foreign birth occurred, the case being normal.

Amongst the Chinese I have seen a great many tubercular affections of the lungs. In most of these cases the lungs were found to be either in the stage of consolidation or else of excavation. Considering the insanitary habits of the patients and the utter want of ventilation in their homes, but little can be done other than to relieve urgent symptoms; and the mortality from this disease alone amongst the natives must be very large.

The principal affections which I have seen among the Chinese are diseases of the skin, viz., scabies and tinea favosa, etc.; diseases of the eyes, viz., catarrhal conjunctivitis, ulcers of the cornea, iritis; also gonorrhœal and syphilitic affections.

Nine cases of opium poisoning were treated. The victims were for the most part females. Two of these died. In both cases of death several hours had elapsed from the time of taking the poison to the introduction of the stomach pump. One lady, not being able to procure any opium, swallowed, from what I could learn from the friends, about half a pint of kerosene oil; but a smart emetic was sufficient to relieve her.

A case of status epilepticus occurred in a woman aged 30. The fits extended over a period of 36 hours, and were at the last almost continuous. Consciousness between the fits was lost and twitching of the muscles was present in the intervals. The woman died from exhaustion. There was a vague history of "fits" during her childhood.

Among the surgical cases treated were whitlows, abscesses, onychia, caries, and many general injuries. Burns, as usual, were plentiful.

A woman brought her baby, about 1 year old, with a tumour on either side of the spine in the dorso-lumbar region. The child was anæmic, wasted, and obviously ill-nourished. The swellings were of a week's duration. Suspecting some spine trouble, and the mother refusing to have the tumours cut, I aspirated in the most dependent parts on both sides, and large quantities of a yellowish serous fluid were withdrawn. The child made a good recovery. The origin of these tumours is doubtful, as there was no spine trouble and the child is now in good health.

Amongst native women a few cases of menorrhagia and metrorrhagia were treated.

A miscarriage in a native lady, in the fourth month, occurred, preceded by slight hæmorrhages at intervals for three weeks. Rest, ice, and hæmostatics were of no avail. The cord was inserted marginally on the placenta.

During the year the main drain of the port was reconstructed and the drainage of the houses occupied by the out-door staff of the Customs attended to; but until there is a foreign Concession much will remain to be done to eliminate the probable sources of many of the minor sicknesses that prevail.

On comparing previous Medical Reports of other ports on the Yangtze, I would go so far as to say that we are as free from serious diseases as any of them.

I am indebted to the Tidesurveyor, Mr. J. W. ANDREWS, for the appended meteorological report for the year.

METEOROLOGICAL TABLE, April 1901 to March 1902.

MONTH.	THERMOMETER.		BAROMETER.		RAINFALL.		TIDES.			
	Maximum.	Minimum.	Maximum.	Minimum.	No. of Hours.	Quantity.	Highest.		Lowest.	
1901.	° *F.*	° *F.*	*Inches.*	*Inches.*		*Inches.*	*Ft.*	*in.*	*Ft.*	*in.*
April	87	49	30.240	29.450	37½	2.12	15	3	3	4
May	82	59	30.240	29.730	53	2.69	17	11	12	11
June	85	67	29.980	29.550	49½	5.34	24	11	13	3
July	89	72	29.980	29.600	122	14.46	28	11	25	2
August	91	75	30.064	29.320	19	0.67	29	3	27	2
September	86	64	30.320	29.810	29	1.01	27	1	21	0
October	76	49	30.610	29.850	33	2.67	21	3	17	2
November	68	40	30.624	30.068	18	0.74	17	10	6	9
December	57	31	30.764	30.000	22	0.83	7	6	3	3
1902.										
January	62	37	30.655	30.050	31	1.36	4	10	1	11
February	68	30	30.720	29.900	22	0.54	4	9	0	6
March	83	39	30.430	29.700	50	5.69	6	0	1	3

DR. W. E. MACKLIN'S REPORT ON THE HEALTH OF NANKING

For the Half-year ended 31st March 1902.

DURING the summer there was a great deal of diarrhœa and malaria among the Customs students, and as that district of the city was badly flooded and the buildings damp and unhealthy, it was recommended that the college be closed till the cooler season. There was one case of dysentery treated with Epsom salts with good results. We treated a few cases of malaria and some cases of diarrhœa. Castor oil proves to be an excellent remedy for ordinary acute diarrhœa. Two cases of acute conjunctivitis were treated with boric acid. One patient suffered with very severe varicose ulcer of the legs, and was treated with Martin's rubber bandage and elastic stockings. An accompanying eczema was treated with a cold cream ointment and zinc oxide. There were treated: bronchitis, two cases; quinsy, one case; acute hepatic congestion, one case. Four of the students were vaccinated, the virus taking effect in all more or less, and in one case with as powerful results as in a primary case. This shows the necessity of revaccination in such a country as this, where small-pox cases, accidental and inoculated, go about freely and mix with the rest of the population. The red cloth that is hung over the door of the house or worn on the heads of the infected is not a warning against contamination, but is a method of worshipping the pock-marked god of small-pox.

Native Cases.—We see a great deal of malaria and its results; enlarged liver and spleen; a contracted liver going on to ascites and dropsy of the legs was also seen. Dysentery is very frequent, and leaves, as a chronic result, ulcers of the rectum. I have examined a number of these with a rectal speculum, and find a number of small ulcers a few lines across with pus, blood, and mucous discharge. I have relieved or cured a good number of cases by keeping the motions of the bowels loose, never allowing any hard fæces to pass over the ulcer, and inserting iodoform suppositories to heal the spots. With this treatment the discharge of blood and pus soon stops.

The Chinese are very afraid of cold or cool water. Recently I had a bad case of high fever requiring baths. The patient was laid on a board and sponged with hot water whenever the fever rose to 105° F. The evaporation of the hot water was as effectual as a cool bath, and did not alarm the patient. In a few minutes the fever dropped to 104° F., and a little time after getting to bed, to 103° F., and lower still later on. The patient made an excellent recovery. In using this treatment the patient's body should be freely exposed, allowing evaporation to do the cooling

I see a number of cases of appendicitis. Two cases were operated on; they were bad pus cases. In one of these the anterior opening did not allow proper drainage. I therefore put an œsophageal probang to the bottom of the fistula, which I found in the lumbar region. This was opened and a drainage tube inserted. The patient has recovered.

There has been a severe epidemic of measles in the city, and one of my native students suffered very severely, having diarrhœa and dysentery as complications.

DR. J. A. LYNCH'S REPORT ON THE HEALTH OF CHINKIANG,

For the Year ended 31st March 1902.

THE twelvemonth just elapsed yields a health record benign and uneventful so far as foreign residents are concerned. It is true that three interments from men-of-war temporarily in port took place at the local cemetery; but no deaths occurred in the foreign community, nor has any illness of a really serious character come under treatment. A few cases of diarrhœa during the summer, a few of sporadic influenza, some malarial attacks readily controlled by quinine, and an insignificant outbreak of rötheln, almost exhaust the list.

In striking contrast with this state of things was the considerable mortality caused among the native population by infectious diseases. Chief of these was diphtheria, a malady little heard of in previous years. It has been most prevalent during the past three months, and, as might be expected, proved especially fatal to young children. Measles and scarlet fever, both of rather severe type, have repeatedly made their appearance. Small-pox, mostly in the inoculated form, presents itself with unfailing regularity every year between January and April, when children in arms, their heads bound in a red cotton handkerchief, and sometimes even with desiccating crusts upon the face and limbs, may be seen unconcernedly carried about in the busiest thoroughfares. Of typhoid, also, something has been seen from time to time; apparently it seldom assumed a formidable character, and deaths reported from this well-recognised fever were very few.

For the appended meteorological abstract I am indebted to the courtesy of Captain C. H. PALMER, Harbour Master.

METEOROLOGICAL TABLE, April 1901 to March 1902.

MONTH.	THERMOMETER.			BAROMETER.		RAINFALL.
	Highest.	Lowest.	Mean.	Highest.	Lowest.	
1901.	° F.	° F.	° F.	*Inches.*	*Inches.*	*Inches.*
April	82	41	61.5	30.35	29.62	1.74
May	88	52	70.0	30.25	29.76	3.28
June	91	61	76.0	30.05	29.54	7.75
July	93	69	81.0	29.90	29.60	18.65
August	95	71	83.0	30.02	29.49	1.62
September	88	61	74.5	30.28	29.90	0.76
October	84	44	64.0	30.57	29.91	1.19
November	70	38	54.0	30.60	30.14	0.69
December	60	23	41.5	30.67	30.15	0.91
1902.						
January	62	30	46.0	30.69	30.10	1.38
February	72	26	49.0	30.70	30.00	1.45
March	86	32	59.0	30.56	29.80	3.11

DR. W. E. PLUMMER'S REPORT ON THE HEALTH OF WENCHOW

For the Half-year ended 31st March 1902.

SINCE my arrival at this port, in the latter part of October last year, I have paid 63 professional visits to European members of the Customs staff; but, with one exception, there have been no serious cases of illness. The one patient who has been seriously ill suffered from a severe attack of malaria, but as he had had two similar attacks when in Canton, on which account he was transferred here last year, I think there is no doubt that the disease was not acquired in Wenchow.

The other members of the European community, mostly missionaries, have enjoyed good health during this period.

There has been one birth.

In the Mission Hospital I have treated a number of bullet wounds. Those brought in soon after the injury recovered, among these being a young man who was shot through the left lung. A man whose femur had been smashed by a pirate's bullet was brought up a week after the fight, having been detained by his captors. He was in a very serious condition, and as we could not promise to cure him, his friends preferred to take him home. Another man who was stabbed by pirates is at present under treatment, and although his condition is serious, it is hoped he will pull round.

Among the general cases which have been treated are the following:—

1.—A sarcoma, as big as a large cocoa-nut, was removed from the back of a girl aged 12. For three days after the operation the pulse was 150 and the temperature 101° F. On the third day both these symptoms subsided; the pulse and temperature became normal, and the wound was perfectly healed in a fortnight. No cause was discovered for the abnormal pulse.

2.—A semi-chronic abscess of undiscovered origin. The patient, a young farmer, aged 32, first noticed swelling of the left buttock and thigh three months before admission; this swelling was accompanied by pain and hardening of the tissues. The symptoms have gradually increased. On admission the upper half of the left thigh behind was swollen, the swelling being most prominent on the posterior and inner aspect, just below the gluteal fold. At this point the skin had a dusky red colour, and on careful palpation, fluctuation was obtained. All round, for about 6 inches, and especially down the thigh, the tissues were indurated and gave much the same impression to the fingers as conveyed when examining a patient with elephantiasis. An incision was made over the most prominent part of the swelling and a little watery pus evacuated. During the following six weeks the discharge, at first copious, gradually diminished, and at the same time the induration and swelling subsided. I have been unable to find any literature out here giving a detailed account of the clinical course of a filarial abscess. I have wondered if that disease might be the cause of this patient's trouble.

3.—There has been quite an epidemic of ophthalmia among the Chinese clinically indistinguishable from the gonorrhœal ophthalmia seen in England. Many of the victims do not come up for treatment until the disease has been in progress for two or three months and the sight is lost. When seen early these cases have been rapidly cured by painting with silver nitrate.

This winter has been remarkably fine and exceptionally dry, practically no rain having fallen for four months on end. The canals have been in a filthy condition for three months and the wells dry, so that all drinking water has had to be brought from a distance; yet I have not heard of there being an unusual amount of sickness amongst the natives.

There are three things which as a new-comer have impressed me:—

(1.) When chloroform is administered to the Chinese they almost invariably go under without making a sound or movement, and when emerging from the effects of the anæsthetic there is no sickness, and food can be taken almost at once and retained. This is very different from the 24 hours misery which usually follows the inhalation of chloroform in England.

(2.) Most of the cases of malarial fever which I have seen have not been ushered in by the rigor described in the text-books, and the fever is usually continued and not intermittent; this is, I am told, a very common experience here. The fever subsides under full doses of quinine in one to three days.

(3.) The number of patients who are troubled with worms has surprised me. In almost every case that I have come across where there has been stomach trouble, pain, colic wind, or other symptoms of indigestion, a dose of santonin has been followed by the expulsion of worms. A woman, aged 58, began to be troubled with fits, apparently hysterical in character; she also suffered from indigestion. After a dose of santonin worms were expelled, and the fits have not returned.

The following meteorological observations have been kindly supplied by Mr. J. H. NIGHTINGALE, the Harbour Master:—

METEOROLOGICAL TABLE, 1901.

MONTH.	THERMOMETER.			BAROMETER.		RAINFALL.	
	Highest.	Lowest.	Mean.	Highest.	Lowest.	Days on which Rain fell.	Quantity.
	° F.	° F.	° F.	*Inches.*	*Inches.*		*Inches.*
January	66	39	52.5	30.400	29.970	17	3.60
February	61	27	44.0	30.590	30.090	1	0.12
March	68	36	52.0	30.525	29.900	15	2.85
April	74	45	59.5	30.375	29.680	19	9.81
May	83	57	70.0	30.300	29.750	20	7.24
June	85	64	74.5	30.010	29.650	17	8.20
July	92	69	80.5	29.954	29.700	14	7.22
August	89	74	81.5	29.990	29.210	19	14.57
September	88	67	77.5	30.220	29.220	6	3.82
October	81	60	70.5	30.400	29.900	10	6.10
November	74	44	59.0	30.490	30.100	3	0.06
December	68	34	51.0	30.557	30.015	9	1.63

DR. B. STEWART RINGER'S REPORT ON THE HEALTH OF CANTON

For the Half-year ended 31st March 1902.

THE six months under review are remarkable for the great amount of serious sickness that occurred and the unusual mortality amongst the foreign community from various causes. The winter months were characterised by the very short period of cold weather and the manner in which the hot season lingered on well into November. The spring of 1902 was notable for the continued drought, resulting in a parched and dried up condition of the country districts, which rendered cultivation of the soil impracticable, water supply short, and disease rife amongst the natives. Canals and drains in the city became choked and filled with putrefactive garbage and the wells poisonous beyond expression. It was not therefore surprising to learn that a very serious form of intestinal disease broke out amongst the Chinese inhabitants of Canton and surrounding centres. It soon became evident that we were in the midst of a severe epidemic of Asiatic cholera. The type was most virulent, those attacked succumbing to the disease, in many cases, in a few hours; indeed, before any timely aid could be obtained the sufferer was past hope. In Hongkong the water supply was extremely scanty, and those in Canton usually dependent on that Colony for their supply of this important commodity were unable to obtain sufficient for their requirements.

This epidemic of cholera, which commenced in January amongst the Chinese, suddenly startled the foreign community, on the 26th February, by claiming as its victim a healthy young Englishman, who succumbed to the attack in 24 hours, notwithstanding vigorous treatment commenced early in the attack. The symptoms were traced in this instance to an unusual and somewhat injudicious indulgence in fruit—bananas and oranges—after dinner, followed by a copious draught of water from a Chinese well in close proximity to a drain. This was the first of a series of fatal cases amongst foreigners, numbering seven in all. Three of those attacked were constitutionally defective, and might readily have succumbed to any serious disorder; in several instances, however, this was not so, showing that the type was therefore severe. Heart failure was a marked symptom, the organ failing to be aroused by strychnine and other stimulants. As is usual in all such epidemics, the virulence of the poison became less severe as the disease waned, and several satisfactory recoveries took place under the ordinary routine treatment. This was also noted amongst the Chinese as the epidemic began to subside, and a number of severe cases of choleraic diarrhœa gradually recovered.

The out-door staff of the Imperial Maritime Customs were scattered about the island of Honam, where the epidemic was rife, and many of the dwellings were most insanitary, surrounded by choked drains, stagnant water pools, sluggish creeks loaded with decomposing materials, and

poisonous wells. Under these circumstances, with the Chinese dying all round and three of the staff having already succumbed to the disease, a very natural condition of alarm manifested itself amongst the remaining residents, and it was considered advisable to take some active measures to modify the danger. With most creditable promptness, therefore, on the part of all concerned in the matter, a series of large house-boats, with a well-equipped galley in charge of a competent European, a comfortable mess-boat, and some private latrine-boats, were soon moored a little distance from the shore. Special printed regulations, with clear instructions, dealing with matters of personal hygiene, the description of diet to be employed, and various precautions to be observed in order to prevent the spread of the disease, were circulated throughout the staff, and certain medicines, with plain directions, were placed in competent hands ready for immediate use. All the boats were frequently visited by the Medical Officer at various times; and thus the scare, which at one time threatened to terminate very seriously, at length came to an end, and health and confidence were again restored.

A great number of cases of diarrhœa were attended at this time, producing much anxiety, but terminating satisfactorily. A few cases of dysentery have to be noted, one of which was followed by abscess of the liver, which was operated upon successfully at the Government Civil Hospital, Hongkong, and ended in recovery.

Three cases of typhoid occurred, none of which were fatal. Two were of the Imperial Maritime Customs staff; and as soon as the complaint was clearly diagnosed, both were sent to the Civil Hospital, Hongkong, where they remained till convalescent, it being impracticable to deal with such serious cases in the quarters occupied.

The third case was very prolonged, and commenced with what appeared to be symptoms of malarial fever, the patient having taken a chill whilst sitting out of doors at sunset when there was a visible vapour rising from the grass at the time. This was followed by shivering, loss of appetite, headache, and a temperature which varied from 101° to 102° F., controlled by quinine, falling each day to 99°.4 F. and under, till the fifth day, when the temperature ran up suddenly to 104° F. During the next four days the patient had violent rigors, followed by a temperature of over 104° F., which twice fell to normal in 12 hours. From this date, however, a more typical typhoid curve commenced and no more rigors occurred. The temperature was usually controlled by the application of iced cloths to the head, chest, and arms, continued for half an hour or even less, as soon as the temperature approached 103° F. The patient experienced considerable relief from this treatment, and the temperature usually fell 2° in the next few hours. Tympanites caused great discomfort; for the relief of this, various things were tried, viz., salol, turpentine, hazeline internally, enemata, and dry heat, the latter producing the most satisfactory result. The salol had to be discontinued, in consequence of the nausea produced. The diarrhœa, though very persistent, was not excessive, and no spots were observed in this case. As soon as it was considered safe this patient was removed to Hongkong; but the fatigue of the journey was found very trying, and though satisfactory progress was being made, strict medical supervision and regimen are still necessary.

As usual, a large number of cases of climatic fever were treated, some due to exposure to sun, others from chill. Rest, light diet, and simple purgatives, followed by antipyretics and quinine, generally resulted in recovery in a few days.

Several cases of German measles occurred and ran the usual mild course, calling for no special treatment.

Amongst affections of the chest, one case of acute bronchitis of the right lung took place, which, after several weeks duration, resulted in complete recovery without spreading to the other lung. With a sad irony of fate, this patient was drowned in the Canton River through the capsizing of a sampan.

Crops of boils, which are frequently troublesome in the spring, were not so severe as in previous years.

Ringworm, eczema, and skin irritation from insect bites came under observation. One case of tingling erythema of the backs of the hands and wrists caused some inconvenience, and was found, on investigation, to have been caused by repeated slight pricks from pine needles inflicted whilst decorating a Christmas tree, not particularly noticed at the time; but the subsequent inflammation was considerable, and was probably due in some measure to the resinous exudation from the tree. The condition passed off in a few days under the soothing influence of a dusting powder.

Of injuries, contused wounds, sprains, burns, incised wounds, and dog bites formed the greater part. One severe wound of the hand, producing considerable hæmorrhage, and necessitating prolonged treatment and three deep sutures, occurred in the following manner. The patient, in trying to withdraw from its wooden sheath a Philippino bolo which had become firmly fixed, and not knowing that the sheath was formed of two loose strips of wood lashed together with thin pieces of rattan, grasped it with one hand and forcibly drew on the handle with the other. The knife suddenly escaped from the sheath with a jerk, cutting through the lashings, and inflicting a deep wound across the ball of the thumb about 2 inches long. The hand was disabled for a fortnight, but eventually healed without further disaster.

Diseases of the mouth, throat, and ear had to be treated, and several severe cases of conjunctivitis amongst the Chinese took place.

Gout, rheumatism, neuralgia, lumbrici, intestinal and renal colic, glycosuria, alcoholic tremor, venereal disease, cardiac trouble, and catarrhs complete the list of the more important complaints which required treatment during the six months ended 31st March 1902.

Two births occurred; and the unusual number of seven deaths have to be recorded amongst the foreign community, and this number does not include several more not under personal observation.

DR. SIDNEY L. LASELL'S REPORT ON THE HEALTH OF HOIHOW AND KIUNGCHOW

For the Half-year ended 31st March 1902.

THE foreign population of Hoihow during this period has been, approximately, as follows: men, 27; women, 12; children, 29.

During the six months there have been no deaths.

Two confinements occurred—one single and one a twin pregnancy (a boy and a girl).

The weather has been exceptionally dry, and has brought with it, on the whole, a good average of health. Dampness and chill are certainly most energetic factors here in producing results not always attributed to them. For example, a sudden lowering of temperature is nearly always followed by many cases of malarial fever, undoubtedly lighted up by chill, however slight. This is seen much more markedly among the natives, who are insufficiently clothed. While there has been a longer season of cool or temperate weather than usual, its uniformity and dryness have warded off many of the effects which the winter season often brings.

Information is frequently asked for in regard to specifically-named diseases in Hainan—as plague or cholera. It is extremely hard to speak with precision or certainty in regard to them. The mass of natives are without Western medical attendance, and, except in Hoihow, practically without any foreigners in their markets; so that nearly all information is from the natives. It is true that they are possessed of a certain skill in diagnosing diseases commonly seen among them; but when the opinion of a person of experience has filtered through the repetitions of a half-score of gossips, it cannot be accepted as good grounds for a formal statement. There are many times when, for their own reasons, even what truth they know is suppressed or denied; and the inquirer is never sure when he has chanced on such an occasion. Many times, on actually arriving at a market or its vicinity, questions of the prevalence of diseases in it are raised which 20 miles away had not been heard of. In such ways as this rumours of plague and cholera have been more or less prevalent at times, but definitely observed cases upon which to base accurate statements are wanting.

Kiungchow is recovering from a recent examination held there. The crowds were large and the style of living thoroughly Chinese. The result was that at the expiration of the few weeks the city was a reeking cesspool—the houses unutterably filthy and crowded with the germs of all Hainan, and the streets converted into open sewers in which the sewage was stagnant. A very noticeable feature has been the large number of flies bred by the condition especially of the streets. As a rule flies are not a pest in Kiungchow; but immediately at the close of the examinations they were noticed in swarms, both in the streets and in the

houses. The aid they lend in spreading the contaminations focused in the city is apparent. Fortunately, the moderate rains of the last few days have had some purifying effect. Meanwhile we can hope that the next examination will require essays on "Cleanliness," as successors to those of this year on "Mining."

This is a time of considerable house-building, actual and prospective. Foreign houses are being erected in three places on the island—Nodoa, Kachek, and Kiungchow,—while constant rumours of projects for others are circulated. The main questions in regard to sanitary building for this climate are in connexion with protection against sun and rain, and the allowing of plenty of air to circulate through, and especially under, the living rooms. The plans in general embody the idea of sleeping rooms on a second story. Studies, dining-rooms, and reception rooms raised 4 feet above the ground, with large openings in the walls up to this height and the enclosed space covered with some water-tight covering (*e.g.*, cement), seem to offer no objections. Large verandahs, capable of being enclosed in time of necessity, are indispensable.

For a foreigner to attempt to live in the ordinary Chinese house is to court ill health; and even when a second story has been added, if the elements mentioned above as essential to proper sanitation are wanting, the results are disastrous. For instance, no one should live in a second story of a middle apartment of a Chinese house, from which the breeze is cut off, as it almost always is, by the front and back houses and those at the sides. The air is at once stifling and damp, and the situation unhealthy in the extreme.

We have to remember that comfort and health are in many cases synonymous. Poor food and a trying climate inevitably make more or less inroads on health; and therefore the more care should be exercised, by those upon whom such duty devolves, to ensure that the additional risks incurred by improper housing should be avoided for everyone.

DR. J. H. LOWRY'S REPORT ON THE HEALTH OF PAKHOI

For the Half-year ended 31st March 1902.

THE general health of resident foreigners in the port has been fairly good during the past six months. There has been one birth (male child) and one death (a sailor, landed from the French man-of-war *Décidée* in the middle of December, who suffered from meningitis following fever).

The case of sprue referred to in a previous Report made slow progress to recovery, and his departure for Europe became imperative. He left the port early in March, having been confined to his house for two and a half months. There was considerable emaciation and weakness, but he escaped the characteristic sore tongue. He took the medicine of a well-known Shanghai herbalist.

A case of mumps occurred in an adult, a new arrival from Europe. He arrived in the port three days before Christmas, and the disease showed itself on the 18th January and ran a simple course, and the patient was about again on the 31st. There were no complications. The highest temperature was on the 4th day (103°.6 F.). No infection could be traced. He travelled out from home in one of the large mail steamers.

At the time of closing this Report no cases of bubonic plague, so far as can be found out, have occurred this year in this district. The investigation by experts of the repeated outbreaks of the disease in Hongkong will be watched with much interest. It is just 20 years since I observed the disease at this port—March 1882.

For the appended meteorological table I am indebted to the Tidesurveyor, Mr. H. A. MCINNES.

METEOROLOGICAL TABLE, October 1901 to March 1902. (Latitude, 21° 29′ N.; longitude, 109° 5′ E.)

MONTH.	BAROMETER.		THERMOMETER.		No. of Days Fog.	RAINFALL.	
	Highest.	Lowest.	Highest.	Lowest.		No. of Days.	Quantity.
1901.	*Inches.*	*Inches.*	°*F.*	°*F.*		*D.* *h.*	*Inches.*
October	30.15	29.88	91	63	...	7 0	3.17
November	30.40	30.04	85	52	...	1 0	0.44
December	30.55	29.94	80	49	...	1 0	0.02
1902.							
January	30.42	29.94	80	47	...	2 0	0.17
February	30.56	30.07	79	41	...	...	...
March	30.37	29.70	88	47	3	0 11	1.55

RAPPORT MÉDICAL SUR LA SITUATION SANITAIRE DE SZÉMAO

DU 1ER SEPTEMBRE 1901 AU 1ER AVRIL 1902,

AVEC LA STATISTIQUE DES MALADIES DU 1ER AVRIL 1901 AU 1ER AVRIL 1902,

Par le Docteur G. A. SAUTAREL.

PAR suite de la prolongation de la saison des pluies qui s'est poursuivie jusqu'en fin octobre, une recrudescence de paludisme a fait son apparition, enlevant dans quatre mois de six à huit cents individus. Il n'était pas rare de compter par jour de 10 à 12 enterrements.

Cette recrudescence de paludisme c'est surtout manifestée sous la forme de typho-malarienne ou type rémittent de LE DANTEE. Les malades présentaient les symptômes suivants: courbature très accusée, douleurs lombaires, céphalalgie, langue fuligineuse, embarras gastrique, fièvre à petites allures, douleurs à l'hypochondre droit sans les taches de la fièvre typhoïde sur le ventre.

La mort survenait du quatorzième au vingt et unième jour dans le coma avec agonie bruyante, ou la convalescence s'installait lentement sous la forme d'anémie paludéenne avec œdème périmalleolaire précoce.

Je n'ai jamais été appelé à domicile pendant toute cette période que pour constater ou bien que le patient était au troisième septennaire de sa maladie ou bien qu'il était dans le coma, dans les deux cas à une époque où j'étais impuissant et complètement désarmé au point de vue thérapeutique.

Il eut été intéressant de prendre les observations et températures, mais c'est encore à Szémao une difficulté qui sera longue à surmonter, tant est grande la méfiance des habitants vis-à-vis du médecin.

Nous avons eu aussi une petite épidémie de grippe pendant le mois de janvier 1902. Cette grippe affectait de préférence la forme pulmonaire sous des allures bénignes.

À signaler chez un enfant de 11 à 12 ans une luxation ischiatique du fémur droit à répétitions. La réduction s'opérait assez facilement, mais les parents jugèrent à propos d'enlever l'appareil de contention le lendemain de la réduction. Il m'a été impossible, malgré mon insistance, de revoir l'enfant.

Les maladies les plus courantes ont été traitées pendant l'année et n'offrent rien de particulier à signaler.

La statistique du 1er avril 1901 au 1er avril 1902 dira suffisamment la fréquence de ces multiples affections.

Je noterai avec mes prédécesseurs les nombreux cas de paludisme sous toutes ses formes, le nombre considérable également de plaies et d'ulcères dont l'étiologie tient tout entière dans la culture des rizières, les hommes travaillant jambes et pieds nus.

La gale n'est même pas ici considérée comme maladie.

Les affections oculaires sont celles qu'on rencontre dans toute la Chine et dont les plus fréquentes sont les taies de la cornée, néphélion, albugo, leucome.

STATISTIQUE.

Affections médicales.

Fièvre paludéenne	423
„ bilieuse	3
Hépatite	4
Anémie paludéenne et œdème	19
Diarrhée	11
Dysenterie	4
Embarras gastrique	41
Entérite infantile	11
Bronchite	30
Pleurésie	1
Broncho-pneumonie	1
Pneumonie	2
Grippe	7
Athrepsie	7
Rhumatismes	18
Vers intestinaux	6
Méningite	2
Endocardite	1
Insuffisance aortique	1
Lumbago	4
Sciatique	2

Affections vénériennes.

Blennorrhagie	7
Chancre mou	4
„ syphilitique et paraphimosis	1
Syphilis tertiaire	1
Gomme syphilitique du genou	1
Bubon suppuré	1
Paraphimosis simple	1
Empoisonnement par l'opium	7

Affections chirurgicales.

Plaies contuses et ulcères	144
„ par instrument tranchant	6
Abcès divers	14
Anthrax	3
Furonculose	4
Adénite	4
Morsure de chien	2
„ „ singe	2
Coup de pied de cheval	2
Fracture du radius	1
Luxation ischiatique (fémur droit)	1
Mastoïdite suppurée	1
Hémorrhoïdes	6
Affections dentaires	14
Brûlures au 1er degré	2
Coup de feu	1
Epithelioma du nez et de la lèvre sup.	1
Cystite tuberculeuse	1

Maladies oculaires.

Conjonctivite	12
Kérato-conjonctivite et taies	15
Kératite phlycténulaire	4
Cataracte double	1
Staphylome cornéen	1

Maladies cutanées.

Eczéma	6
Gale	13
Acné	5
Pelade	2
Impétigo	3
Lèpre tuberculeuse	1
Accouchement	1

DR. OTTO GULOWSEN'S REPORT ON THE HEALTH OF CHEFOO

For the Half-year ended 30th September 1902.

THE past half-year has been, with regard to certain diseases, of some interest at this port.

In the spring six cases of scarlatina occurred within a fortnight, all in one family. Four of the cases were grown-up people from 18 to 53 years of age, all of whom had suffered from the disease before; the remaining two were children, who had the disease for the first time. All the cases started with rather grave symptoms, which quite typically followed their normal course, and disappeared regularly, as regards four of them. Two of the patients died: one, 53 years of age, was already somewhat better, when he suddenly collapsed on the 8th day (this patient had been suffering from Formosa fever for years and had sometimes shown weakness of the heart); in the other case, a child of 6 years, the fever continued to keep very high for more than three weeks, with a few remissions, and she finally died from pyæmia.

That four members of one family should get scarlatina for a second time, and even in quite a grave form, must, I think, be considered a *unicum*. I have never seen anything like it recorded.

All these cases happened in one compound. Every possible precaution was taken to prevent the spread of the disease; but when it is taken into consideration how dependent we all are on Chinese servants, etc., it seems quite strange that no other case occurred in the town, especially as more than 30 children in the foreign Settlement have never had the disease. As no other case of scarlatina was observed during the whole of last winter and spring, either in the foreign Settlement, or at the missionary stations, or in the native city (doubtful, perhaps), it is most probable that the disease was brought from Shanghai, whence two of the patients had returned about seven weeks before it broke out here, although while at Shanghai they had taken great care not to expose themselves to the disease, at that period rather common there.

Before and contemporaneously with this little epidemic in the Settlement, the missionary doctors informed me of an epidemic of rubeola (German measles) at the missionary stations. More than 80 children were attacked. My colleagues describe the symptoms as comparatively grave, the disease lasting in some cases as long as eight days. One case proved fatal—an infant, 3 weeks old. Not one case of German measles was noted in the foreign Settlement, less than 2 miles away.

As the different ports became infected with bubonic plague or cholera, vessels coming from those ports were ordered to undergo medical inspection. During the summer 16 steamers, with 17 cases of cholera, were put in quarantine. Of these 17 cases, 3 were Europeans, 1 was a Japanese,

and 13 were Chinese, most of whom were dead or in a dying condition when entering the port. Only one case, the Japanese, recovered.

No case of bubonic plague or suspected bubonic plague was found.

In the beginning of June it was rumoured that cholera existed in the Chinese city. I thereupon commenced an inspection, which I continued almost daily, of various places in the city; but I was not able to find an authenticated case of cholera. As rumours continued, other medical men who were passing through the port occasionally accompanied me, and although several cases looked suspicious at first sight, further observation convinced us that the disease was not cholera Asiatica, but a rather grave gastro-enteritis, from some other reason. I kept under observation about 100 cases, of which at least 80 recovered; but as some patients were taken away to their homes in the interior, I cannot tell what the result was generally. In a few cases I made microscopic examination, with negative results. Unfortunately, the extremely busy time at this period did not allow me to follow the disease microscopically, as should have been done. I need hardly mention that in nearly every case there could easily be adduced instances of the most striking infringement of every hygienic law. This summer there has certainly been a good deal more gastro-enteritic disease in the city of Yentai (Chefoo) than for several years past, but the amount of sickness, and especially the number of deaths, has been greatly exaggerated.

As soon as rumours of cholera along the coast reached Chefoo, the foreign residents were warned what hygienic precautions should be adopted, and the local hotel was, at the request of the manager, occasionally inspected. The result must be said to have been most gratifying. During the whole season only one case of gastro-enteritis, a disease rather common during former summers, was noted amongst the Chefoo residents and visitors. In this case the patient had eaten a quantity of grapes. Recovery took place after a few days. Not even a case worth mentioning of the very common colo-proctitis (dysenteric) was noted; in fact, this summer the general health of the Chefoo Settlement was decidedly better than it has been for the last seven years.

At the same time, I must mention two lamentable occurrences that happened in the immediate vicinity of Chefoo. During the early days of July an epidemic, with the most fatal results, occurred at the China Inland Mission Boys School: 19 boys were seized with a disease very similar to cholera Asiatica, and of this number, 13 died within about two days. Two physicians from the United States fleet, then lying at anchor here, and myself were called in by our missionary colleagues. Microscopic examination for the comma bacillus was made, with negative result; and after having investigated the case thoroughly, we unanimously declared it our conviction that the disease was ptomaïne poisoning, due to eating tainted chicken pie. An autopsy was performed, and certain parts of the intestines were sent to the laboratory at Shanghai for further examination, with the result that the disease was there pronounced to be cholera Asiatica.

The other case occurred about eight days later, when five sailors, also suffering from choleraic symptoms, were brought into the hospital in one day from a French man-of-war. One recovered, but the others died in the course of eight days. All these men had the day

before been eating shell-fish, and the diagnosis left no doubt as to poisoning being the cause. Although we had a great number of men-of-war stationed here for a long time during the hot season, no other case of abdominal disease was heard of.

I may mention that every case in which any suspicion of cholera was present was treated with saline injections.

Questions are very frequently asked by medical men about the prevalence of lepra, beri-beri, and tuberculosis at this port. Lepra is not at all a common disease at Chefoo and surroundings, but I have observed it somewhat oftener, perhaps, during recent years than was the case formerly. I have neither seen nor heard of a case of beri-beri at Chefoo. Tuberculosis occurs, of course, but it is a comparatively rare disease here.

DR. J. B. FEARN'S REPORT ON THE HEALTH OF SOOCHOW

For the Year ended 30th September 1902.

THOUGH last year we had only an average amount of sickness to report, with no epidemics, for the period under review it falls to our lot to report one of the worst years, from a health standpoint, that this part of China has ever experienced.

During the different seasons the climatic conditions have been about as usual; thus we cannot look upon these as a source of all the sickness.

Beginning early last winter, diphtheria and scarlet fever made their appearance, and claimed many victims. Antitoxin was in great demand, and no doubt saved many lives. We have a Japanese doctor in our midst who used this method of treatment with great success.

Small-pox has been about as severe as usual, but formerly, as it had the field all to itself, it stood out with greater prominence than during this year.

Fast upon the heels of the forenamed diseases came the much-dreaded cholera. While we have the disease with us every year, this is the first epidemic since 1895. It began early in the summer and continued its ravages until quite recently. The cases which came under my notice were of the most violent form, and though everything was done in the way of treatment, yet the per-centage of those cured was almost *nil*. A fellow-practitioner came to the wise conclusion that those who recovered, he felt sure, had "not had genuine cholera." No particular class seemed to be affected—rich and poor alike were attacked by this dread monster, and rich and poor alike succumbed. Dysentery and diarrhœa were much in evidence, as was typhoid fever; and even now we are called in to see many cases which have gone into some form of chronic intestinal trouble.

This past summer malaria has been markedly prevalent. Born and reared in a malarial section of America, I was prepared to see all forms of this familiar disease; but this year has far surpassed anything in my experience. The great varieties of form and perniciousness of type seemed to characterise the malaria of this year. We have had the double quotidian, the single quotidian, the tertian, the quartan, and a mixed infection of quotidian and tertian, in which on one day the patient would have two distinct paroxysms and on the other days only one; we have also had the weekly, bimonthly, and monthly, while one of the Customs foreign staff claims to have an attack every quarter. Some seem to think mosquitoes have been unusually bad this year, but, with careful watching, I have not been able to note a single Anopheles. All cases have yielded to quinine, given in tablet form. Some have shown quite a persistency in recurring.

Among foreigners there have been six births and one death; the fatal case resulted from follicular dysentery with malarial complications.

Among the Chinese the most reliable statistics available give the deaths during the interval between March and September as 20,000. This only includes deaths within the city wall, and as Soochow has large suburbs, the total must be far beyond this.

We have had a most interesting case in our midst—interesting because of the successful issue. In November of last year one of the Customs staff was bitten by a dog (his own) which showed unmistakable symptoms of rabies. He reported to me at once. I curetted and cauterised the wounds, and sent him the same day to Dr. STANLEY, of the Shanghai Municipal Health Department. I was much surprised and disappointed when I learned that the dog had been shot and thrown into the canal; we dragged for the body, but failed to recover it. The patient took the course of treatment under Dr. STANLEY and returned to his post. Later on I received word that another dog, which had been bitten by the same dog and at the same time as the patient, had shown unmistakable symptoms of rabies. This dog was shot and the body sent to Dr. STANLEY. The following report was received in due course: "Rabbits inoculated with the brain of the dog show signs of rabies as early as the 11th day; the dog therefore had rabies of a particularly intensive type."

This case speaks for itself. We are glad to have such a clear case to report. The patient has had no untoward symptoms, but, with the exception of attacks of malaria, has had good health. This should be an encouragement not only to those who have been bitten by suspicious dogs, but also to those who are responsible for placing this treatment at our very doors.

DR. W. E. PLUMMER'S REPORT ON THE HEALTH OF WENCHOW

For the Half-year ended 30th September 1902.

CHOLERA began in this city about the middle of July, but the disease was reported to be in the P'ing-yang-hsien two or three months earlier. It rapidly spread, and at the end of a fortnight cases were occurring all over the city. The mortality was highest at the end of July; during August and the first half of September the deaths became fewer daily. This summer there has been an unusual absence of rain, so that everything was dry and water scarce. On the 15th September a heavy shower of rain fell during the night and partly refilled the canals. This downpour was coincident with a sudden increase in the number of deaths from cholera; the epidemic seemed to have taken a new lease of life, and during this relapse the mortality was greater than during the first attack. At the time of writing—10th October—the disease is again dying down.

Those best able to judge estimate that the deaths from cholera in the city amounted to 5,000 or 6,000, while in the whole prefecture at least 30,000 are said to have died.

As the first attack of cholera was subsiding, a very severe form of malarial fever spread over the whole district. The inhabitants of the hills, who have enjoyed relative immunity from cholera, suffered as much as the dwellers in the plains. The mortality directly resulting from this disease has been considerable.

During this period foreigners have enjoyed immunity from cholera; but the general health has been below the average, fever, diarrhœa, or debility having affected most of the community.

DR. SIDNEY L. LASELL'S REPORT ON THE HEALTH OF HOIHOW AND KIUNGCHOW

For the Half-year ended 30th September 1902.

THE continued dry weather, while disastrous to crops, has seemed healthful, epidemics not having been marked in virulence or duration and not having affected the foreign community. Plague seems not to have been very prevalent, although from time to time reports from outlying markets have indicated severe local manifestations.

Cholera has been more in evidence. Both in Kiungchow and in Hoihow there have been periods during which the natives reported a considerable mortality. A surprisingly small number of cases have come under observation.

A certain number of intestinal cases, somewhat resembling cholera, but wanting several important characteristics, have been observed. A sudden onset or a short prodromic period of mild diarrhœa, followed by a period of many loose or watery stools, great prostration, rapid, weak pulse—sometimes vomiting (watery in character), thirst, but little, if any, fever,—running on to a fatal conclusion in from 6 to 36 hours, or, in a minority of cases, gradual abatement of symptoms and slow recovery, with much anæmia and weakness. Some of these cases have been confirmed opium smokers, but others were persons previously in good health. No special exciting cause could be found, although chill seems to have occurred in many of them. Symptomatic treatment seems moderately successful.

Hongkong's epidemic of dengue fever reached this port in the persons of visitors from Hoihow to Hongkong, who brought the fever or its sequelæ back with them, the consequent arthralgiæ being extremely obstinate. It is said that cold baths have been used with success in mollifying the pain. Several cases have occurred here, more or less typical, the severest being seen in a patient who had suffered with it several times before.

The physical condition of a number of the foreign community recently leaving the island on furlough, as well as the observation of the condition of those on duty, makes it very plain that the subject of vacations is an important consideration in such surroundings as these. The plan of waiting until health is broken or seriously impaired, and then going away to recuperate, is pernicious. In many cases, interest in work or pride in accomplishing results prevents those on duty from giving proper attention to the warnings of an overworked system that the danger mark is approaching; besides this, no one likes to be considered shirking or weakly. It therefore devolves upon those in authority to see that vacations occur at proper intervals and of sufficient length. There is neither justice nor economy in allowing, not

to say requiring, prolonged uninterrupted stretches of years of routine work. The gain in number of days of service exacted is more than counterbalanced by the loss of energy and premature aging of the one thus overworked.

During these six months there has been no death. There was one birth.

The foreign community is as follows: men, 23; women, 12; children, 30.

DR. J. H. LOWRY'S REPORT ON THE HEALTH OF PAKHOI

For the Half-year ended 30th September 1902.

IN spite of a somewhat hot summer, the health of foreigners residing at this port has been generally good.

Two births have taken place (both children males), and there has been one death—a child of 14 months.

The long-desired rain came in May, and the water famine came to an end.

Cases of liver congestion have had to be treated, and where there was a rise of temperature the fever subsided, once the congestion was relieved by proper treatment.

A case of otitis in a young lady, a new arrival in the port, required treatment; she had been subject to attacks of fever (not malarial) before the ear trouble. She made a good recovery.

Cases of bubonic plague were reported in April. I saw none myself, being absent from the port most of the month, and I have personally seen no cases this year. M. le Docteur ABBATUCCI, attached to the French Consulate at this port, made many injections with plague serum, with very satisfactory results.

Cases of cholera or choleraic diarrhœa were reported among the natives in the month of August, and corpses in matting were to be seen lying in the suburbs of the town, chiefly to the east end.

All over China during the months of August and September there are many outbreaks of bowel trouble among the coolie class; they are not necessarily cases of Asiatic cholera, or even cholerine, but are the result of indiscretions in diet, in a poor class of people, at a time of the year when the temperature is high. My observations are based on residence among the people at several treaty ports besides this one—Kiungchow, Wenchow, and Wuhu. The huge slices of water melon laid out on tables along the streets are very tempting to thirsty coolies. To keep these slices fresh they are frequently sprinkled with water; and where does this water come from? Certainly it has not been boiled, nor has it passed through a Pasteur filter. So, between decomposing water melon and doubtful water, it is little wonder there are many deaths among these poor people at this time of the year. A case of simple diarrhœa may prove fatal in an ill-fed Chinese coolie.

Cases of dengue have been reported in the town during September, but none came under my notice.

I am indebted to the Harbour Master for the following abstract of meteorological observations:—

METEOROLOGICAL TABLE, April to September 1902. (Latitude, 21° 29′ N.; longitude, 109° 5′ E.)

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.	
	Highest.	Lowest.	Highest.	Lowest.	No. of Days.	Quantity.
	Inches.	*Inches.*	*° F.*	*° F.*		*Inches.*
April	30.20	29.78	91	56	7	0.55
May	30.08	29.72	92	82	9	13.11
June	29.92	29.20	95	71	8	8.50
July	29.95	29.50	98	73	19	29.14
August	29.98	29.55	93	74	15	25.16
September	30.20	29.80	95	69	8	3.11

REMARKS.—There have been singularly few thunderstorms, and no typhoons or typhoon blows.

RAPPORT MÉDICAL SUR LA SITUATION SANITAIRE DE MONGTZE,

AVEC LA STATISTIQUE DES MALADIES SOIGNÉS,

PENDANT LE PREMIER SEMESTRE DE L'ANNÉE 1902,

Par le Docteur GEORGES BARBÉZIEUX.

D'UNE façon générale, l'état sanitaire a été très satisfaisant. À part deux petites épidémies de grippe et de cholérine, qui ont surtout éprouvé la colonie européenne, nous n'avons observé aucune épidémie grave. L'année dernière, nous avons eu un cas de peste; cette année, il n'en a été observé aucun cas.

En revanche, nous avons donné des soins à de nombreux lépreux, qui viennent de plusieurs lieues à la ronde, demander un "remède" contre la redoutable maladie. La lèpre observée revêt toutes les formes connues et décrites de cette affection. Dans quelques cas de lèpre tuberculose, l'huile de chaulmoogra et son alcaloïdes, les toniques, une hygiène plus sévère nous ont valu quelques améliorations.

Je fais, d'ailleurs, un travail d'ensemble sur cette maladie, qui est très fréquente au Yunnan.

Les maladies de la peau, des yeux et du tube digestif sont toujours les plus fréquentes. L'hygiène déplorable des indigènes, leur malpropreté, explique cette fréquence.

En revanche, les maladies du poumon sont très peu nombreuses et la tuberculose est presque inconnue dans notre région.

La statistique révéle environ 27.27 pour cent de fumeurs d'opium. Beaucoup d'affections gastro-intestinales, quelques cachexies ne reconnaissent pas d'autre cause que cet abus de l'opium, fumé ou mangé par les Chinois.

Telles sont les quelques observations que l'on peut noter en examinant la statistique.

STATISTIQUE.

GÉNÉRALITÉS.

Population médicale approximative	60,000	personnes.
„ européenne au 1er juillet	33	„
„ annamite (*"boye"*)	30	„

Nombre des malades qui ont réclamé les soins du médecin du Consulat: hommes, 972; femmes, 62; enfants, 73; total, 1,157. Fumeurs d'opium—hommes, 269; femmes, 4; enfants, 1; total, 274 (soit 27.27 pour cent).

Nombre des Européens soignés par le médecin du Consulat, 26.

Guéris ou améliorés	913
Morts	1
Disparus	43
En traitement au 1er juillet	172
Incurables	7
TOTAL	1,157

LISTE PAR ORDRE ALPHABÉTIQUE DES MALADIES TRAITÉES.

Abcès	19	Dents (pansements et extractions)	20
Acné	3	Diarrhée	5
Adénite	4	Douleurs rhumatoïdes	12
Adéno-phlegmon	3	Durillon forcé	1
Albinisme	1	Dyssenterie	2
Albuminurie	1	Ecthyma	5
Aménorrhée	2	Eczéma	46
Anémie	18	Embarras gastrique	128
Anthrax	1	Emphysème pulmonaire	3
Anurie	1	Empoisonnement par l'acide carbonique	1
Aphtes	1	„ „ l'opium	1
Arthrite	2	Engorgement ganglionnaire	3
Ascite abdominale	1	Entorse	1
Asthme	1	Fièvre	69
Athrepsie	1	„ typhoïde	3
Balanite	1	Fractures diverses	4
Blennorrhagie	10	Furoncles	26
Blépharite	6	Gale	67
Bronchite	26	Gastro-entérite	4
Brûlures	2	Gingivite	9
Cachexie	1	Glaucome	5
Cancer	1	Goître	1
Cataracte	3	Gourme	1
Chancres	7	Grippe	5
Coliques hépatiques	1	Hémorrhoïdes	9
Conjonctivite	79	Hépatite	1
Constipation	1	Herpès	5
Contusions	27	Hydarthrose	1
Coqueluche	1	Hystérie	2
Corps étranger de l'oreille	1	Hystéro-épilepsie	1
Dacryocystite	2	Kératite	15

Laryngite	1	Plaies diverses	69
Lèpre	66	Pleurodynie	3
Lipome	3	Pneumonie	2
Lumbago	25	Pollakyurie	1
Luxations diverses	2	Prolapsus du rectum	1
Misère physiologique	5	Prurigo	8
Morsures d'animaux	1	Psoriasis	4
Naso-pharyngite	1	Ptérygion	12
Névralgie	9	Rhumatisme	15
Névrose	2	Sciatique	1
Œdème	11	Spermatorrhée	1
Opium, accidents de l'	30	Syphylis	11
Orchite	1	Tænia	1
Ostéïte	2	Taies de l'œil	2
Otite	11	Tuberculose	1
Ozène	1	Ulcères	3
Panaris	1	Varicelle	1
Paralysies diverses	2	Varices	1
Paraphimosis	1	Viol	2
Phlegmons divers	5		

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PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics: { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.— * * * * *

I am, etc.,

(Signed) ROBERT HART,

Inspector General.

To

THE COMMISSIONERS OF CUSTOMS.

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DR. H. RENNIE ROBERTSON'S REPORT ON THE HEALTH OF TIENTSIN

For the Year ended 31st December 1902.

THE general health of the port has been good during the period under review. No disease in an epidemic form has been prevalent in the foreign communities, excepting cholera, which was only so amongst the native element living amongst us.

In the month of June cholera first made its appearance in our midst, and measures were at once adopted by the Commissioner of Customs and the British Municipal Council to prevent, so far as possible, the spreading of the disease. An arrangement was come to with the Tientsin Provisional Government by which all cases of cholera among the natives in the foreign Settlements were sent forward for treatment at the native city cholera hospitals. Isolated sheds were erected on the site of the proposed new cemetery plot, to the south of the Racecourse Road, but, fortunately, it was never found necessary to make use of these buildings. Weekly inspections of the Settlement (British) and Extra Concession were carried out, and all compounds were kept in as sanitary a condition as possible. A gang of coolies was organised and kept in readiness to thoroughly disinfect any premises in which a case of cholera occurred, and any resident, on application to the municipal authorities, was enabled to have his premises and compound thoroughly disinfected at a minimum charge, to cover the cost of the disinfectants. The plan worked well, and the Settlements were kept in a thoroughly clean condition.

The number of cases of cholera occurring amongst Chinese in the British Settlement and Extra Concession amounted to 65.

I am glad to be able to record only three cases that came under my notice amongst foreign civilians: one case, in the British Settlement, fortunately recovered; the two others, one in the French and one in the German Settlement, ended fatally. I have no record of the cases among the soldiers of the foreign garrison.

In view of the serious epidemic prevalent in Shanghai, it was deemed advisable to put the quarantine regulations into force, and the Commissioner of Customs took the necessary steps to this end early in June. A strict medical inspection of steamers was carried out at Taku, both outside the bar and at the inner anchorage, from June to September.

Malaria.—There have been fewer cases of malaria during the year 1902 than in former years, and this I attribute to the steady filling in of ponds, which formerly encircled the communities, as well as to the greater amount of attention which has been paid to the general sanitation of the foreign Settlements.

Enteric.—I am again glad to be able to state that there has been almost a complete absence of enteric; the few cases that I have seen were, I am almost sure, not contracted in Tientsin.

Small-pox.—Only three cases have come up for treatment at the Victoria Hospital.

Infectious Diseases.—The present accommodation for treating infectious cases is entirely inadequate to the possible needs of a steadily increasing community. It is to be hoped that in the immediate future a suitable building will be erected on a suitable site.

Victoria Hospital.—51 cases have been admitted to the hospital during the year.

Sanitation.—Considerable improvement has been made during the year. Many ponds have been filled in, and more attention generally has been paid to the hygiene of the Settlements.

Obituary.—There have been 17 deaths (Taku, 3; Tientsin, 14). I regret to have to record the death of two well-known old residents, viz., Mr. W. H. FORBES, of Tientsin, and Captain WATTS, of Taku.

Births.—There have been 21 births; of these, 9 have been male and 12 female children (one instance of twins and one stillborn).

TANGKU METEOROLOGICAL ABSTRACT, 1902.

MONTH.	BAROMETER.			THERMOMETER.				RAINFALL.	
	Highest.	Lowest.	Average.	Highest.	Lowest.	Average.		No. of Hours.	Quantity.
						Max.	Min.		
	Inches.	*Inches.*	*Inches.*	*° F.*	*° F.*	*° F.*	*° F.*		*Inches.*
January	30.50	29.63	30.03	50	11	36.6	20.5	...	...
February	30.35	29.73	30.10	47	14	36.4	21.8	...	...
March	30.01	29.67	29.83	65	21	50.1	35.4	20	0.78
April	30.01	29.50	29.77	84	34	60.2	45.0	7	0.04
May	39.74	29.40	29.58	89	45	75.0	57.0	2	0.29
June	29.74	29.42	29.59	98	60	84.3	68.5	13	0.78
July	29.71	29.42	29.56	109	65	85.0	72.7	18	0.79
August	29.70	29.52	29.61	96	61	84.5	69.0	30	2.83
September	29.69	29.49	29.62	89	47	79.0	60.3	2	0.20
October	29.90	29.61	29.74	82	43	70.3	50.3	3	0.01
November	29.93	29.60	29.79	65	30	53.6	39.8	...	...
December	29.96	29.73	29.89	47	15	36.3	23.2	...	...

NOTE.—2½ inches of snow fell in 12 hours in January, and 1⅞ inches in 22 hours in February.

DR. J. A. LYNCH'S REPORT ON THE HEALTH OF CHINKIANG

For the Year ended 31st March 1903.

THE sanitary record of the past year is, on the whole, a highly favourable one. Four births took place in the foreign community; no deaths.

The diphtheria epidemic among the native population died away towards the beginning of summer, no further cases being heard of after the first week of June, when two Chinese children with unmistakable symptoms were attended to in the Concession, and successfully treated with antitoxin.

About the same time cholera made its appearance in the Chinese city and suburbs; it lasted till the middle of September. During this three months stay the mortality, so far as can be ascertained, amounted to something like 2,000, in a population of 96,000 or so. It is pleasant to report that an immunity next to absolute was enjoyed by the foreign Settlement: one case only came under observation within Concession limits; the patient, a Chinese woman, recovered speedily. Throughout the summer sanitary activity was directed chiefly to maintenance of the drains in effective working order, surface improvements on various private lots, and supervision of the food and water supplies.

Among foreign residents the only cases of serious illness to be noted are one of summer diarrhœa, unusually severe, occurring in July, and one of liver abscess, in December.

The Harbour Master, Captain C. H. PALMER, has been kind enough to supply the appended meteorological abstract.

METEOROLOGICAL TABLE, April 1902 to March 1903.

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.
	Lowest.	Highest.	Lowest.	Highest.	
1902.	*Inches.*	*Inches.*	° *F.*	° *F.*	*Inches.*
April	29.75	30.38	41	79	6.65
May	29.71	30.15	54	92	4.27
June	29.57	30.02	64	101	1.24
July	29.58	30.03	66	99	6.23
August	29.70	30.06	71	97	4.26
September	29.81	30.33	50	90	0.73
October	30.05	30.36	50	90	1.04
November	30.00	30.58	35	78	0.42
December	30.09	30.67	25	71	1.63
1903.					
January	30.09	30.75	22	73	0.22
February	29.90	30.77	23	69	1.92
March	29.94	30.45	32	63	4.04

DR. HENRY LAYNG'S REPORT ON THE HEALTH OF SWATOW

For the Fourteen Months ended 30th November 1902.

IN September 1901 commenced a long and disastrous drought, which continued until May 1902.

The total rainfall for 1901 was 61.06 inches, and was well up to the average total in any given year, but badly distributed during the months of the year.

During the time of drought—that is, the eight months from 1st September 1901 to 30th April 1902—the total rainfall was 7.26 inches. Of the 7.26 inches, 3.09 inches fell in April; thus, in the seven months from 1st September 1901 to 31st March 1902 the rainfall was only 4.17 inches. In the corresponding eight months of 1900–01, 27.07 inches of rain fell; of 1899–1900, 25.39 inches; of 1898–99, 26.62 inches.

The effects of the drought were seen in the poor harvest and high price of rice, and a general—and in some cases, a very heavy—increase in price of all foodstuffs. Local rice was at one time sold at $10 and that from Wuhu at $8 per bag of 150 catties; three years ago the local product was $6.50 and Wuhu rice $5.50 per bag of like weight; price at time of writing is $6 and $5 respectively, due to good crops and unusually large quantity imported. Sweet potatoes were at one time selling at $1 per 90 catties, the ordinary selling value being about 200 catties for this sum.

The small quantity of water in the rivers caused great hindrance to traffic.

Increased and steadily increasing difficulty in finding means for a living, and in procuring good water for cooking purposes, led to the consumption of a dietary of a poorer and less wholesome grade, and so to a lowering of the general vital force of the population, and hence lessened powers of resistance to the onset of disease.

For months many thousands of people cooked their rice in brackish water. The price of water in the port of Swatow averages about 20 cash per carry of two bucketfuls; during the drought it rose to from 50 to 100 cash, and then the water purchased was brackish. Good water was sold in small quantities at the house doors for making tea, and was also obtainable by the few who are regularly supplied from wells and reservoirs on the south side of the harbour, which did not absolutely fail.

Chinese cities, towns, and villages always lend themselves favourably to the spread of disease, due to the hopeless overcrowding, poverty, and dirt ever present; small wonder, then, that this year, with scarcity of water and threatening famine in addition, plague and cholera claimed their victims by the thousand.

Plague and cholera started in parts of the district in epidemic form as early as March. In Ch'ao-chou-fu, with a population of 320,000, some 18,000 deaths are reported as caused by the diseases mentioned; for a few days the total approximated 1,000, and one day it was reported to have exceeded that figure. Plague and cholera appeared together in Ch'ao-chou-fu in March, and became epidemic in the middle of May. There is much difference of opinion amongst both foreigners and natives as to the total population of this city, the lowest I have heard being 200,000, the highest 1,000,000, the most common 600,000. The estimate which I adopt is, I think, the most probable, as it is based on a census taken for the collection of a house tax.

Ch'ao-yang, with a population of 120,000, once again suffered most severely—more so than in former years. All who could leave the town did so; many found their way to Swatow and many camped out on the hills. Since the first visitation of plague to Ch'ao-yang it is calculated that it is responsible for 30,000 deaths; of this number the present year takes 14,000, but the figure for this period is made to include deaths from cholera as well as plague.

A foreigner resident at Kityang writes: "The population of Kityang, inside and outside the city walls, is about 100,000 persons, perhaps 70,000 living within and 30,000 without the city. Last year I was told that from 4,000 to 5,000 coffins had been carried out of the city. The plague and cholera were at that time about in their last days. It would not be much out of the way to say that 6,000 persons had died inside and outside the city, and that an equal number, if not more, died in the 2,000 villages connected with the Kityang district."

From Ungkung a resident foreigner writes as follows: "The natives claim that there are 100,000 persons at Ungkung within and without the walls; though a foreigner cannot well estimate the population of Chinese cities, I should think that 75,000 would be nearer correct. The natives say that about 1,000 persons died here of cholera during the past summer. Cholera was worse in all the surrounding villages than in this place. At Cioan city, where there is a population of about 40,000, there were said to be 5,000 deaths. We had not a case of plague at Ungkung this year, whilst the natives say there were 10,000 deaths from it last year. Certainly there were about 5,000 corpses interred in the potters field, but those that are interred elsewhere are more difficult to reckon. I have inquired in all parts of Ungkung, and of hundreds of persons, and without exception they say they do not remember to have seen a rat since the plague ceased last year. It appears that the plague made a clean sweep of the rats, whilst only decimating the natives; hence I have reached the tentative conclusion that 'no rats, no plague.' Another place and incident will complete about all that I know. Chia-na is about 10 miles from Ungkung, where the natives say there is a population of 20,000, and where plague and cholera were exceedingly virulent. First, about 1,000 died of plague, then cholera came in, reinforcing the plague, and by the co-operation 1,000 more deaths ensued. Some of the deceased were buried near a large well belonging to a village of about 500 inhabitants. The well, which was about 12 feet in diameter, was used by the entire community During the very rainy season we had in the beginning of summer 300 persons of that village died of plague. Finally, when the people saw that the terrapins and turtles inhabiting the well were floating on their backs dead, they concluded that the water was infected from the newly-made graves; so they discontinued using the water, and the plague ceased. Knowing that Chinese

coffins are usually sealed with putty and made almost water and air proof, I inquired about those used there, and was informed that from scarcity of regular coffins and lack of ability to purchase them, many of the deceased were interred in improvised boxes and crates."

Suapoh, a large village which I visited several times, with a population of about 8,000, recorded 700 deaths, chiefly from plague.

I have mentioned only a few of the towns and villages that suffered; in very many more there is only the same history to be told.

In 1901 plague first appeared on Namoa Island, and again this year, in a more severe epidemic form, hand in hand with cholera. Between Namoa and the mainland there is much traffic by native boats and some by steam-launch to Swatow.

The history of this and former epidemics of plague is much the same. Onset is always in the winter months; the spread of the disease is at first slow; towards the end of February the rate increases; by April the epidemic is in full swing; it reaches its maximum in May and June, and in August it dies out. Coast towns and villages and towns distant not more than 30 miles inland have suffered most. Cholera, which has not occurred here in epidemic form since 1890, was extensively epidemic in the port and surrounding district; in fact, the two diseases—plague and cholera—were usually found together. I have no means of stating with any degree of accuracy the relative proportion of deaths that should be ascribed to each.

In the town of Swatow between 700 and 800 deaths occurred from plague and cholera. There is no doubt that, in the port, cholera claimed more victims than plague; whether this is so for the district, I cannot say.

Dengue fever was general in the district in July, August, and September, and is still prevalent to a certain extent. The disease was most variable in its symptoms, and duration was usually mild. No foreigner living on the south side of the harbour was attacked; of those living on the north side, some 10 or 12 suffered.

The Singapore authorities prohibited Chinese immigration on the 3rd July. On the 4th August the port was declared free from all epidemic diseases, and on the 22nd August the first passenger steamer left for Singapore.

The health of the members of the foreign community has been good. Two or three cases of æstivo-autumnal malarial fever occurred on the south side of the harbour, and one fatal case of cholera on the north side—this was the only death amongst the residents.

LE CHOLÉRA À MACAO ET LAPPA EN 1902.

Par le Docteur J. GOMES DA SILVA.

I.

La peste et le choléra dans l'année courante. Pourquoi la peste a-t-elle épargné Macao. Une hypothèse à confirmer. Un gouverneur modèle.

La presqu'île portugaise de Macao, visitée à chaque printemps, depuis 1895, par la peste bubonique, a, dans l'année courante, donné des preuves d'une immunité presque absolue, puisque on n'y a enregistré que deux cas de peste, tous les deux fatals et survenus pendant le mois de mars. Et ce fut tout.

Cette immunité est d'autant plus étrange et étonnante que, à Hongkong, à Canton, un peu partout dans le Hiangshan et même dans les îles portugaises voisines de la petite péninsule, la peste a sévi cette année, si non avec son affreux cachet usuel, du moins en produisant une mortalité suffisante pour qu'on l'ait regardée comme une épidémie assez sérieuse.

À coté de cette immunité par rapport à la peste bubonique, la colonie portugaise de Macao, comme du reste tout le district douanier de Lappa, a bien démontré que le choléra y pouvait trouver un beau champ de développement, puisqu'il y a sévi, d'abord très doucement, en donnant une mortalité moyenne d'un individu par jour, pendant les mois de mars et avril, puis se réveillant vers la moitié et surtout vers la fin de mai, en augmentant toujours jusqu'au milieu de juin, où le choléra faisait chaque jour, en moyenne, une moisson de 21 victimes. Puis, tout-à-coup, le chiffre de la mortalité journalière se mit à descendre à chaque semaine, comme il avait monté; et dans un mois, vers le milieu de juillet, toute trace de l'épidémie avait disparue.

Ce qu'il y a peut-être de plus frappant dans la marche de l'épidémie, c'est que la courbe de la mortalité par le choléra, dans l'année présente, a beaucoup ressemblé aux courbes de la mortalité par les épidémies de peste que précédèrent. Ainsi, il n'y a qu'à regarder les diagrammes annexes à ce rapport pour vérifier que, sauf la saison, qui pour la peste est le printemps et pour le choléra l'été, la courbe de la mortalité journalière dûe aux épidémies de peste en 1895 et 1898 et de choléra en 1902 a été toujours à-peu-près la même.

Cette circonstance fait naturellement songer à l'idée que le choléra a remplacé la peste, dans l'année courante, à Macao. Cette idée pourtant ne peut pas tenir, dès que l'on considère que la compatibilité de la peste et du choléra a été bien démontrée, non seulement à Hongkong et Canton, mais aussi dans les îles mêmes de Taïpa et Coloane, où les deux épidémies ont régné ensemble.

Ce sont précisément ces faits qui rendent plus difficile la solution du problème, quand on se rappelle que les conditions d'exposition et de climat sont sensiblement les mêmes à Macao et à Taïpa et Coloane.

Et la chose devient plus difficile encore, si l'on songe que, cette année, les autorités de Macao ont mis tout-à-fait à l'écart les mésures de défense qu'on prenait habituellement contre la peste. Que ce fût la crainte de l'invasion du choléra qui absorba toutes les attentions des autorités locales, que ce fût leur conviction qu'il n'y avait rien de sûr ni de pratique à faire pour éviter la visite annuelle de la peste bubonique, le fait est qu'on a laissé libre champ aux immigrants porteurs du bacille pestigène. Or, ces immigrants en ont certainement profité, puisque tous les ans il y avait des pestifués qui essayaient d'entrer à Macao, malgré tout, et qui étaient parfois pris à l'inspection médicale et forcés de rentrer à leur pays de provenance.

Pourquoi donc la peste, qui faisait des ravages dans les dépendances de la vieille colonie portugaise, n'a-t-elle pas visité la ville et les environs de Macao ?

Je n'y vois qu'une réponse; et encore faut-il que l'avenir la ratifie. La peste n'a pas visité Macao, parce qu'elle en a assez de la petite ville, où chaque année les travaux publics ont apporté des éléments d'une transformation rapide et rationnelle, dans le but d'assainir et d'embellir la ci-devant "perle de l'Extrême-Orient." Autrement dit, la peste aura réellement visité Macao, comme d'habitude, mais elle n'y aura pas trouvé les conditions de jadis, si favorables à son développement sous forme meurtrière.

De fait, on a détruit des quartiers malsains—le Volom, le Figo, le Saint-Lazare, le Lontinchine, les Halles Centrales; on les a remplacés par de beaux quartiers hygièniques et sains; on a fait passer à flots le grand air et la lumière du soleil dans des endroits où, depuis des siècles peut-être, ces deux puissances de l'hygiène n'auraient su entrer; on n'a pas même oublié les environs de la ville, où nombre de marais ont disparu et sont en train de disparaître et où les quartiers de Sankiu et de Sakom ont été presque refaits.

Et tout cela, c'est l'œuvre d'un seul homme, que je me permets de nommer ici, comme un bienfaiteur de la colonie de Macao—le Gouverneur HORTA E COSTA. Que son œuvre soit continuée par ses successeurs; et la saine et mignonne colonie portugaise, désormais le sanatorium du sud de la Chine, verra la vie renaître dans ses rues et dans ses promenades, qui remplaceront les ruelles et le sol stérile où les Européens d'autrefois monopolisaient le commerce du vaste empire chinois.

II.

Début de l'épidémie. Le premier Européen immolé. Le choléra chez les Sœurs; une victime du devoir. Le choléra chez les Européens; le danger de l'insouciance; le danger de la peur. Mouvement des hôpitaux de cholériques. L'épidémie et les quartiers riverains. La peste et le choléra sur l'eau.

Le 5 mars, un matelot débarquait de la chaloupe chinoise *Kwanglee* et était transporté à l'hôpital chinois de Macao, où il mourait, quelques heures après y avoir été reçu. Les symptômes

de la maladie et le facies du malade étaient assez caractéristiques pour que le cas fût sur-le-champ diagnostiqué de choléra-morbus par le directeur du poste médical, appelé en toute hâte. Toutes les précautions ayant été prises et la chaloupe ayant quitté le port tout-de-suite, le cas n'eut pas de conséquences, du moins immediates.

Le 12 du même mois, un autre cas a été reçu à l'hôpital chinois, avec la même symptomatologie et la même terminaison. Il s'agissait d'un Chinois sans travail, qui avait quitté Canton l'avant-veille, et pour fuir le choléra et pour chercher un emploi à Macao. Il emportait déjà la diarrhée, ce qui ayant été aperçu par les gens de la maison où il avait été reçu, on l'envoya à l'hôpital, pas si tôt pourtant qu'il ne présentât déjà le vomissement, les crampes et le facies abdominal d'une periode avancée de la maladie.

La maison a été isolée et désinfectée, les cohabitants et voisins du malade mis sous la surveillance de la police. Tout le monde se trouva bien de ces précautions, exception faite d'un garde de la police maritime, un Européen qui, pris dès le lendemain de diarrhée cholérique, n'y fit pas attention et n'entra à l'hôpital que le 19 mars, avec tous les symptômes du passage à la troisième periode de la maladie (asphyxie). Il a pourtant pu résister à la condensation du sang, mais pas aux désordres de la réaction, qui l'emporta malheureusement le 31 de ce même mois. Il a succombé à l'anémie cérébrale consécutive.

Ce fut le premier cas de choléra produit à Macao même. D'autres se présentèrent ensuite et l'épidémie evolua comme le montre le diagramme annexe.

Vers la deuxième semaine de mai, lorsque l'épidémie coulait toujours doucement, le choléra éclata tout-à-coup à l'Asyle de la Sainte-Enfance, comme la peste y avait éclaté en 1897.

Sans que l'on pût bien savoir comment ni pourquoi, ce jour 11 mai, 3 enfants, de 8 à 11 ans, et 2 filles, de 16 et 18 ans, ont été prises du choléra et transportées à l'hôpital européen. Toutes les 5 sont mortes entre quelques heures et trois jours. Le lendemain, 4 enfants et une fille de 16 ans ont été de même attaquées et transportées à l'hôpital. Toutes ont été sauvées. Le 13, encore 3 enfants et 2 filles; plus une fille et une enfant, le 14; puis encore le 17, une fille, le 21 une enfant, le 22 la Sœur ANGÉLINE et, pour finir, le 23, une dernière enfant. En tout, 1 Européenne, 6 Eurasiennes et 13 Chinoises, dont l'Européenne, 2 Eurasiennes et 7 Chinoises ont péri.

Depuis le 12 mai, les Sœurs et les enfants avaient quitté le couvent, comme elles avaient été forcées de le quitter en 1897. Cette fois, tout le monde s'en alla à l'Île Verte; et le résultat du changement fut tel que de cet endroit il ne fut plus envoyé à l'hôpital que 9 malades, parmi lesquelles, malheureusement, on comptait la Sœur de charité qui les soignait.

La Sœur ANGÉLINE, qui a cette année succombé au choléra, est précisément la même dont j'ai parlé dans mon rapport, il y a cinq ans, et qui a failli être victime de la peste bubonique.* Cette fois l'immunité professionelle ne l'a point garanti. Encore une martyre du devoir et de la charité.

Les Européens décédés au cours et à cause de l'épidémie ont été, comme l'on peut voir au tableau annexe, une dame, un marin, un soldat de la garnison, quatre soldats de la police militaire et un garde de la police maritime.

* Customs *Medical Reports*, lv, p. 12.

La dame était pauvre et vivait, à vrai dire, de la charité voilée; elle avait toujours refusé de rentrer en Europe aux frais du gouvernement local. La vraie cause de sa mort fut plutôt la misère que le choléra. Entrée à l'hôpital le 9 juin, presque en agonie, elle y expira en quelques heures.

Pour les soldats, la chose a été bien différente. Dès que l'on a observé que la diarrhée, prémonitoire ou spécifique, était entrée dans les casernes, on essaya tout ce qui fut possible pour que le soldat fût soustrait à l'influence des causes prédisponantes du choléra. Ainsi, ordre fut donnée aux commandants de défendre à leurs subordonnés l'usage de l'eau non bouillie et de leur fournir du thé ou de l'eau acidulé, chaque fois qu'ils étaient commandés pour le service. Eh bien! Le soldat se moquait du thé, de l'eau bouillie et de l'eau acidulée qu'on lui fournissait. Dès qu'il arrivait au Bazar, il préférait l'eau de puits, qu'il trouvait plus fraîche et plus savoureuse. Et le lendemain le poison agissait. Les uns, voyant que la diarrhée tenait ferme pendant deux ou trois jours, allaient se plaindre au docteur, qui les envoyait à l'hôpital. D'autres n'y faisant pas attention, puisque "ce n'était que de l'eau et ne gênait pas le ventre," il a fallu mettre des infirmiers militaires à la caserne, pour la surveillance des selles. Malgré tout, il arriva que des malheureux parvinrent à se dérober à toute espèce de surveillance; et ceux-là n'étaient envoyés à l'hôpital que trop tard, après l'apparition des vomissements et des crampes, voire même du hoquet et de la cyanose. Et voilà comme il y eut des victimes parmi les soldats européens de la garnison et de la police.

Un fait à enregistrer. Pas un soldat indigène ou indien n'a été attaqué par le choléra. Serait-ce parce qu'ils ne buvaient que du thé?

Mais le cas le plus extraordinaire est celui du marin. Pendant tout le temps d'épidémie, il fut défendu à l'équipage des bateaux de guerre portugais de descendre à terre sous n'importe quel prétexte, autre que le transport de malades à l'hôpital militaire. À bord, on ne buvait que de l'eau bouillie et du vin. Et, comme conséquence, pas un seul cas de choléra ne se manifesta jusqu'au commencement de juillet, c'est-à-dire, quand l'épidémie tombait et que la mortalité de la ville se réduisait à des chiffres presque normaux.

Le 3 juillet, pourtant, un matelot à bord de la *Diu* fut soudainement pris de diarrhée cholérique. Envoyé de suite à l'hôpital européen pour le choléra, il y entra sous une dépression très accentuée, qui n'était nullement en proportion avec le début de la maladie. Deux jours après, le malheureux succomba sous l'action d'une congestion que rien n'a pu combattre. Et il est mort sans avoir eu un vomissement, une crampe, un hoquet, sans suppression d'urine et sans qu'aucun autre cas se produisît à bord de la canonnière *Diu*.

Fut-ce bien le choléra la cause directe de la mort dans ce cas? On pourra à peine le croire. Certes, la congestion suffit à expliquer le décès; mais la congestion était-elle due au processus cholérique? Le sang n'a pas eu le temps de s'épaissir, il n'a pu créer des embolies cérébrales. La congestion ne serait-elle pas le résultat de la frayeur, de l'impression morale, très-profonde d'ailleurs, d'être envoyé à l'hôpital des cholériques?

J'ai vu de très près des épidémies de choléra à Java (1884) et en Espagne (1885); j'ai soigné moi-même les cholériques débarqués du transport *India* à Macao en 1888;* jamais je n'ai vu un

* *Relatorio da Epidemia de Cholera-morbus, Macau*, 1888.

seul malade succomber pendant la période de diarrhée cholérique. Et on comprend le fait, puisque l'asphyxie n'est que la conséquence des pertes d'eau subies par le sang et que, dans l'absence de vomissements, le malade peut toujours compenser ces pertes d'eau. Entre les complications de la quatrième periode (réaction), la congestion tient sans doute un rôle important, comme l'anémie, la pneumonie et surtout la diathèse préexistante. Mais, pendant la seule diarrhée cholérique on ne saurait expliquer la congestion que par l'action nerveuse de la peur.

Donc, voilà bien ma première observation personelle d'un décès par le choléra à la première periode. Il paraît pourtant que ce n'est qu'une exception et encore une exception qu'on pourra bien expliquer par d'autres causes.

Deux hôpitaux ont reçu les cholériques pendant l'épidémie, celui de Macao, mieux connu comme "hôpital des pestiférés," et celui de Lappa, dépendance de l'hôpital chinois de Macao. Les tableaux annexes donnent le mouvement de ces deux hôpitaux pendant tout le temps que sévit l'épidémie. Il faut pourtant y ajouter les deux cas dont j'ai déjà parlé, qui ont été reçus à l'hôpital chinois de Macao, au début de l'épidémie, quand on se croyait encore à l'abri du fléau.

Les endroits les plus éprouvés par le choléra furent les quartiers riverains—Bazarinho, Bazar, Patane, Sankiu, Sakom,—les villages de la rive droite (Lappa) et la population flottante des *tankas* et *sampanes*. À coté de cela, on trouve, par exemple, les quartiers intérieurs de la ville et environs qui n'ont presque rien souffert—33 en 793 décès—et encore de ceux-là 28 en ville, puisque aux villages de Lontinchine et Mom-ha on n'y a enregistré que 5 décès par choléra.

On dirait une réduction de ce que l'on observe dans l'Inde, où les bords des fleuves et rivières produisent le gros de l'effrayante mortalité du choléra-morbus.

Encore à enregistrer. Sous la peste, la population flottante a joui d'une immunité presque absolue, ce qui d'ailleurs fut constaté aussi à Canton. La connaissance même de ce fait porta des malades qui résidaient à terre à se rendre à bord des *sampanes*, sur le fleuve, tout eu s'y faisant soigner comme des particuliers dans les chambres d'un vaste hôpital. Il y en eut même qui eurent à se féliciter de leur décision.

Malheureusement, le choléra ne se conduit pas comme la peste; et ceux qui ont essayé le traitement sur l'eau n'ont pas du tout réussi.

III.

L'algèbre, l'agriculture et l'épidémiologie. La valeur du microbe devant le choléra et devant la peste. Défense contre les épidémies: cordons militaires, quarantaines, inspection d'immigrants. Le rôle de l'état et la prophylaxie individuelle.

Tous les agriculteurs savent par expérience personnelle que la valeur d'une moisson est un produit de trois facteurs, également importants—la qualité de la semence, la nature du sol et les conditions climatériques locales. La valeur de la moisson sera toujours proportionelle à celle de la semence X, du sol ou milieu intérieur I, où la plante doît puiser sa nourriture, et de l'atmosphère ou milieu extérieur E, où elle doît respirer et croître. C'est-à-dire:

$$M = X \times I \times E.$$

La valeur de M croîssant et décroîssant avec la valeur de X, I ou E, il est évident que, si une de ces quantités devient = o, à o sera réduite la valeur de M. Ainsi, un noyau de pêche, semé au grand air dans un sol très riche, au niveau de la mer, sous l'équateur, ne produira guère de fruits; comme un grain de raisin, jeté dans un sol d'élection, sous un climat froid, voisin des neiges éternelles, ne germera pas, faute de conditions climatériques favorables. Dans un cas comme dans l'autre, E étant = o,

$$M = X \times I \times o = o.$$

Sous un climat tempéré et choisi, si l'on jeté la semence dans un sol imperméable et marécageux, ni la vigne ni le pêcher n'y prospéreront non plus. C'est que dans cette hypothèse, la valeur de la moisson deviendra

$$M = X \times o \times E = o.$$

Inutile d'ajouter que même sous le ciel et sur le sol le plus riche du Portugal ou de la côte de la Mediterranée, si ni l'homme ni la nature ne se chargent de donner la semence à la terre, la vigne et le pêcher n'y viendront jamais.

Il faut pourtant noter que les valeurs de E et de I sont toujours relatives à la qualité spécifique de X. Ainsi, tel sol qui est ou devient impropre à la culture de la vigne et du pêcher pourra être encore utilisé pour la culture des graminées, par exemple. De même, si le climat de l'équateur ne permet pas la culture de la pêche, de la pomme et d'autres fruits des climats tempérés, il est, en revanche, bien favorable à la production, sans des soins de culture, de l'ananas, du mangoustan et de la mangue.

Ce qui est un fait acquis pour l'agriculteur l'est aussi, dans une certaine mésure, pour l'épidémiologiste. La mortalité M d'une épidémie, est elle aussi un produit du bacille pathogène X par les milieux I × E, où E réprésente les conditions de milieu extérieur, plus ou moins favorables au developpement et prolifération du bacille, et I les ravages produits dans l'organisme individuel par des maladies antérieures, par les diathèses ou par de mauvaises habitudes acquises.

Comme en agriculture, il n'y a guère ici de valeurs absolues ni pour I ni pour E; ces valeurs sont toujours relatives à la nature spécifique de X. Tel individu, qui n'a guère d'aptitude pour contracter la peste, peut en avoir pour devenir une victime du choléra; tel milieu, très favorable au developpement de la malaria peut bien être un mauvais champ de culture pour le bacille diphthérique.

Sitôt que les progrès de la bactériologie auront révélé à la médecine les valeurs de I × E pour chaque bacille spécifique, on pourra de bonne heure prévoir, à chaque épidémie, la mortalité que le fléau produira, si, bien entendu, l'on connait déjà à-peu-près les conditions de vie du milieu social envahi par l'épidémie. Et—ce qui me semble encore plus important—on pourra aisément déduire de la formule de la mortalité les mésures les plus convenables de défense contre l'ennemi commun.

Ainsi, pour la peste bubonique, par exemple, on sait que la valeur de I augmente avec le tempérament lymphatique, l'appauvrissement de l'organisme par une nourriture insuffisante ou par toute cause d'excès. D'un autre coté, il est aujourd'hui exubéramment démontré que la valeur de E croît avec toutes les causes de désoxygénation de l'atmosphère—insuffisance de

grand air et de lumière naturelle, encombrement d'individus, immondices des habitations et des voies publiques, canalisation défectueuse et facilement obturable.

En ce qui concerne le choléra, on sait que la condition de milieu intérieur la plus favorable à la culture naturelle du bacille c'est un tube digestif—et surtout un intestin—engourdi dans sa resistance organique par l'abus des boissons alcooliques, par une entérite chronique méprisée, par l'abus des condiments et des aliments mal choisis, en un mot, par toutes les causes qui gênent, de suite ou à la longue, les fonctions normales de l'appareil digestif. La désoxygénation de l'atmosphère doit aussi avoir un rôle dans l'étiologie du choléra; il paraît cependant que ce rôle n'est jamais si important que dans celle de la peste. On dirait même que le voisinage de la mer et des fleuves a aussi une certaine influence sur la valeur de E par rapport au choléra. Peut-être simple affaire d'humidité.

À l'appui de ces hypothèses et pour ne citer que des faits observés dans les épidémies de choléra et de peste à Macao, il faut noter que:

1°. Jamais la statistique nécrologique de la peste n'enregistra un seul cas dans la ligne des habitations, qui, battue des vents de S.W., S. et E., s'étend dès la Barre, par la colline de Penha, Praia Grande, Villa Branca, colline de Guia, jusqu'à la Porta do Cêrco; pendant que dans la dernière épidémie de choléra la statistique noso-nécrologique a, dans cette même ligne, enregistré 90 cas, avec 13 décès, dont 5 parmi les résidents européens.

2°. L'épidémie, cette année, a sévi surtout le long du fleuve et de ses deux rives—110 décès pour les embarcations, 418 pour la rive gauche (Macao), 103 pour la rive droite (Lappa); pendant que la zone intérieure était bien plus épargnée—33 décès en tout.

3°. Pendant le septénaire de la peste à Macao—1895 à 1901—les épidémies, comme l'endémie, respectèrent toujours les Européens, exception faite d'une Sœur italienne, qui tomba sur le champ de bataille de l'épidémie de 1898. Le choléra, à lui seul, emporta, parmi les Européens attaqués, 21 en 1888 et 9 en 1902, y compris aussi une Sœur de charité italienne.

Pour ce qui régarde la valeur de X dans la formule de la mortalité, les conditions de virulence du bacille sont bien plus difficiles à saisir. On dirait que les basses températures de l'hiver arrêtent le développement des bacilles, et de la peste et du choléra; et que les conditions climatériques les plus favorables à la virulence de l'épidémie sont en règle, une température modérée pour la peste bubonique, haute pour le choléra, et une atmosphère humide pour tous les deux. Encore, il ne faut pas trop s'y appesantir, dès que l'on vient d'observer la concomitance du choléra et de la peste à Hongkong et, quoique à un moindre degré, aux îles de Taïpa, Coloane, D. João et Vonkame.

Mais ce qui est important, surtout au point de vue prophylactique, c'est que les selles, soit des cholériques soit des pestiférés, contiennent abondamment le bacille morbigène et sont partout de bons moyens—le seul, peut-être, pour le choléra—d'infection propagée par le malade. L'infection peut se faire par l'inquination directe de l'air ou de l'eau; mais c'est surtout par ce dernier moyen que le choléra se propage au loin. C'est ainsi que, en général, les épidémies

deviennent plus meurtrières après les premières grandes pluies de la mousson; l'eau, filtrant à travers le sol inquiné par les déjections, afflue aux sources et puits en plus grande quantité, favorisant ainsi le milieu de culture du bacille pathogène.

Il devient donc évident que, si l'on a grand soin de désinfection pour les selles des pestiférés et surtout des cholériques, on peut espérer de voir, par ce moyen, la valeur de X très réduite, si non tout-à-fait anéantie.

D'un autre coté, puisque l'eau est le véhicule normal du choléra, si l'on parvient à éviter l'eau contaminée par le bacille ou à y détruire par la chaleur tous les germes de maladie, on aura toutes chances de réduire à o la valeur de X.

En admettant, comme on le fait presque partout aujourd'hui, que le *bacillus pestis*, trouvé par KITASATO et YERSIN à Hongkong en 1894, est l'agent spécifique de la peste et que le *bacillus coma* ou *vibrio cholera*, découvert par KOCH en 1884 en Egypte, est la cause directe du choléra indien, il est évident que toutes les mésures ayant pour but de conserver ou de réduire à o la valeur de X, seront toujours les plus importantes et les plus rassurantes, si elles parviennent à être efficaces.

Les quarantaines et les cordons militaires d'isolement ont été parfois en faveur dans certains pays d'Europe et même d'Amérique. Apparemment, ces mésures ont quelquefois réussi, comme il est arrivé avec les cordons sanitaires dont on entoura le Portugal en 1885, la ville d'Oporto en 1899 et Macao en 1888 et 1894. Ainsi, l'épidémie de choléra en 1885, ayant débuté à Valencia, se répandit partout en Espagne, sans empiéter par un seul cas bien avéré sur la frontière portugaise. C'est ce qui survint aussi avec le cordon sanitaire qui enveloppa la ville d'Oporto en 1899, pendant qu'on y supposa l'existence de la peste bubonique. À Macao même on s'est trouvé bien du système. Le cordon militaire qui en 1888 entoura le lazaret de cholériques débarqués du transport *India* a réussi à éviter l'invasion du choléra à la ville et à ses environs. De même, en 1894, la peste, ayant sévi pendant plusieurs mois à Canton et à Hongkong, n'a pas visité Macao, defendue par un cordon militaire.

Certes, il y aurait mainte et forte objection à faire à cet égard; pourtant les faits ne subsistent pas moins: le choléra ne s'étendit pas hors du lazaret de Macao en 1888, comme la peste ne se répandit pas hors d'Oporto en 1899; la peste n'entra pas à Macao en 1894, comme le choléra ne fit pas éruption au Portugal en 1885. Ce sont des faits acquis. Serait-ce dû aux cordons militaires d'isolement? Il paraît.

Pour ce qui regarde les quarantaines d'observation, leur efficacité a été maintes fois mise en doute par les événements. Je ne saurais rapporter ici toutes les causes qui, dans la pratique, détruisent les garanties que, en théorie, on aurait le droit d'espérer de cette mésure prophylactique. Je me demande seulement comment la quarantaine maritime aurait préservé Oporto de l'invasion de la peste, puisque pendant toute l'année de 1899 pas un bateau provenant de pays infecté n'entra dans son port.

Quant à la simple inspection de passagers, en si grande faveur dans les ports de l'Extrême-Orient, il suffira peut-être de citer un fait assez curieux pour être enregistré. Dès 1894, c'est-à-dire, dès l'apparition de la peste bubonique à Canton et à Hongkong, la colonie de Macao a toujours cherché de son mieux à s'en défendre; et une des mésures considerée comme des plus

utiles était de faire inspecter par des médecins les passagers provenant des ports infectés. Eh bien! De 1895 à 1901, chaque année on déterminait l'inspection médicale; et chaque année, plus ou moins, la peste a toujours envahi la colonie portugaise. Dans l'année courante, l'attention des autorités locales fut détournée pour un autre fléau, qui semblait plus terrible encore, du moins pour les Européens; et on a mis à bord de chaque bateau à vapeur faisant la course entre Macao et les ports voisins—Hongkong excepté—un infirmier militaire, muni d'instructions pour examiner soigneusement, pendant toute la traversée, les selles des passagers, de sorte qu'à personne devenue suspect il ne fût permis de débarquer à Macao. Quant à la peste bubonique, on a mis de coté l'inspection médicale des arrivants, puisque cette mésure n'avait nullement réussi pendant une periode de six ans.

Résultat: le choléra y est venu, quand même; la peste n'a pas daigné y entrer, dès que le champ lui fut abandonné.

À ajouter. Dès qu'à Hongkong on a su que la peste avait fait son apparition dans les îles voisines de Macao, on a déterminé et maintenu jusqu'au moment où j'écris—milieu d'août—l'inspection médicale des passagers provenant de Macao, comme une bonne mésure prophylactique contre l'invasion de la peste. Or, la peste n'a pas sévi à Macao cette année, elle est disparue de Taïpa dès la première semaine de juin et elle règne encore et toujours à Hongkong. Et les autorités locales de maintenir les inspections médicales des passagers de Macao! C'est leur droit strict, sans doute; mais, comme résultat, c'est tout de même curieux.

Tout ce que je viens de dire n'a pas la moindre intention de discuter ni de combattre les cordons militaires, les quarantaines, les inspections médicales, comme mesures de défense contre les épidémies. Non. Cela va tout simplement à rappeler combien il est difficile à un état ou à une ville d'éviter l'invasion des bacilles pathogènes et partant de réduire à o la valeur de X dans la formule de la mortalité.

Mais ce que l'état peut et doît faire, si ses ressources le lui permettent, c'est de placer le pays en de telles conditions que, si le bacille parvient à y entrer, il n'y trouve pas un champ favorable à son développement. Or, le problème de la peste est évidemment le problème de la maison, comme la question du choléra est la question de l'eau. L'état à Macao a beaucoup fait, dans ces derniers temps, pour changer l'habitation du prolétaire chinois, en inondant les quartiers indigènes de grand air, le dissolvant de tous les bacilles spécifiques, et de soleil, le désinfectant par excellence. Que l'œuvre soit continuée et que l'on regarde aussi un peu du côté du choléra. Il faut que les habitants de Macao aient de l'eau potable, de bonne source, en quantité suffisante pour une population de 100,000 âmes, pendant l'hiver comme pendant l'été. Où puiser cette eau? Voilà la question, voilà le problème.

Il faut pourtant qu'on en trouve la solution, si l'on tient à que Macao recouvre sa vieille et juste réputation de sanatorium du sud de la Chine.

Mais ce serait une erreur—et une grave et sérieuse erreur—de laisser à l'état tous les soins de défense contre les épidémies. Il y a encore la défense personnelle, qui est toujours quelque chose et qui parfois est presque tout. Si dans la peste, par exemple, la défense individuelle se borne à la recherche d'une bonne maison—ce qui n'est pas toujours trouvable, et pour cause; si, outre cela, on doit déployer les plus vigoureux efforts pour que les malades

atteints de peste soient aussitôt envoyés à l'hôpital, puisque autrement la maison risque de devenir un foyer épidémique; si, enfin, on doit désinfecter soigneusement toutes les déjections et ne boire que de l'eau bouillie; dans le choléra on doit faire tout cela et quelque chose de mieux. On doit éviter à tout prix les causes de troubles gastro-intestinaux et ne mépriser jamais la plus légère de ces perturbations. Si on est habitué aux boissons alcooliques, il faut en restreindre l'usage, il ne faut boire que du vin et de la bière, et encore il convient d'en être sobre. Les fruits pas ou trop mûrs, les salades et les légumes mal cuits, le poisson salé, voilà autant de causes d'indigestion, qu'on doit éviter en temps de choléra. Mais, c'est surtout contre cette épidémie que l'eau bouillie, comme boisson, et la désinfection des selles ont, comme armes de combat, une valeur qu'elles n'ont peut-être pas contre la peste. Il faut toujours y apporter les meilleurs soins.

Comme on voit, l'état peut beaucoup contre la peste bubonique, le citoyen n'y peut rien ou presque rien; contre le choléra, l'état peut quelque chose, le citoyen peut presque tout. On oserait même dire: *mourra de la peste qui ne peut; mourra du choléra qui le veut.*

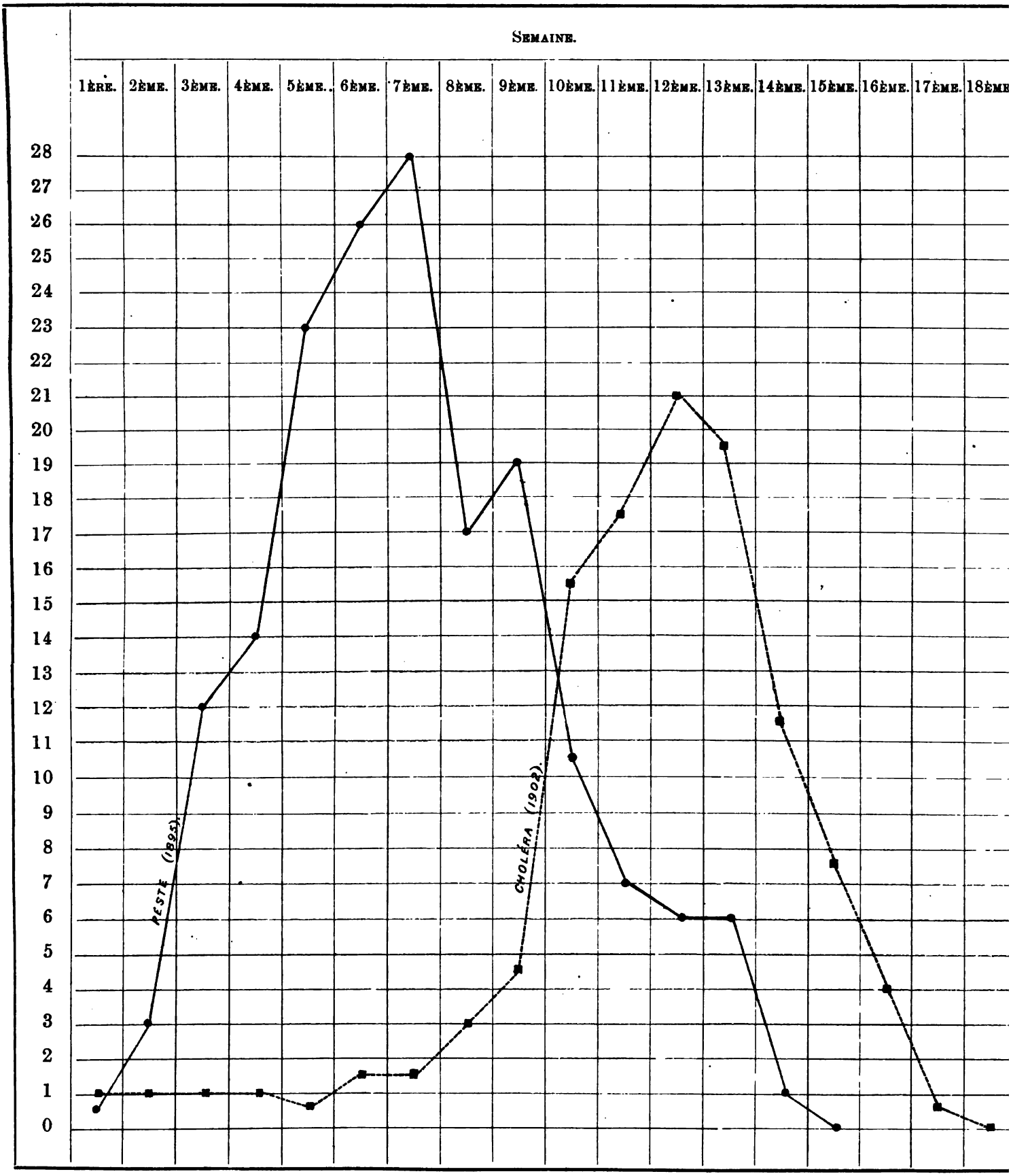
Que n'est-il possible de le faire comprendre aux habitants du Céleste Empire!

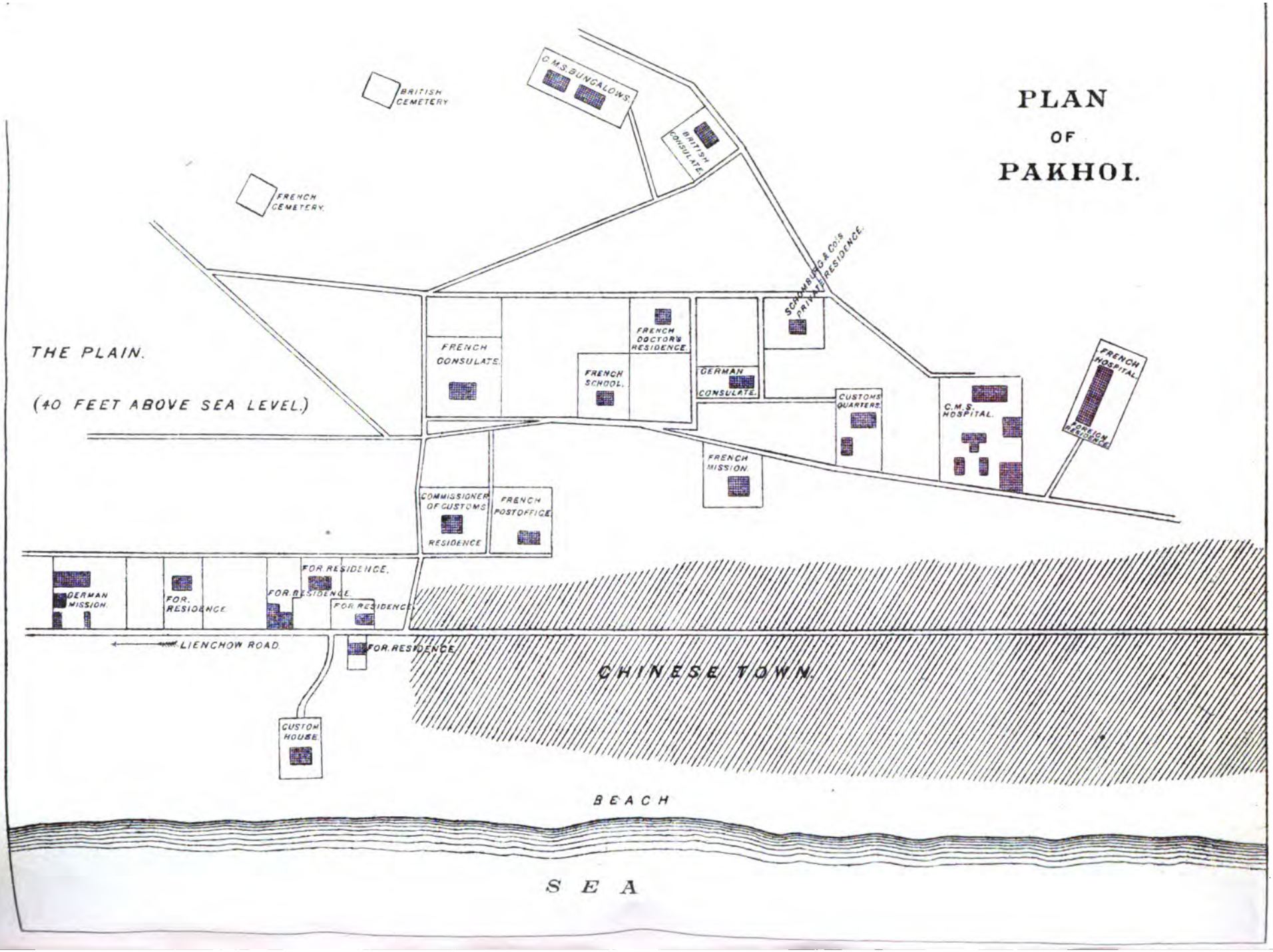
ÉPIDÉMIE DE CHOLÉRA À MACAO ET LAPPA EN MARS–JUILLET 1902.

Tableau de la mortalité.

Conditions et provenance des malades.			Hors des hôpitaux.			Dans les hôpitaux.			Total.
			En ville.	Aux environs.	Aux dépendances.	Macao.		Lappa.	
						Européens.	Chinois.	Chinois.	
Sexe		Masculin	59	22	60	11	2	403	557
		Féminin	55	42	63	17	...	174	351
Âge		Enfants (jusqu'à 15 ans)	21	3	34	4	...	54	116
		Adultes (de 16 à 60)	68	49	81	24	2	484	708
		Vieillards (au dessus de 60)	25	12	8	...	...	39	84
Origine	Européens	Portugais	...	...	...	8	...	...	8
		Italiens	...	...	...	1	...	...	1
	Eurasiatiques		1	...	...	7	...	...	8
	Asiatiques (Chinois)		113	64	123	12	2	577	891
Provenance	Macao	Intérieure	9	5	...	8	...	11	33
		Littorale	37	...	...	19	...	49	105
		Marginale	65	54	...	...	1	298	418
		Fluviale	3	5	...	1	1	100	110
	Dépendances	À terre	...	...	58	...	...	4	62
		À la mer	...	...	65	...	...	...	65
		Lappa	...	...	...	...	...	103	103
		Hiangshan	...	...	...	...	...	10	10
		Hongkong	...	...	...	...	...	2	2
Total			114	64	123	28	2	577	908

DIAGRAMME COMPARATIF DE LA MORTALITÉ JOURNALIÈRE PAR LES ÉPIDÉMIES, DE PESTE EN 1895, DE CHOLÉRA EN 1902, À MACAO ET LAPPA.




PLAN
OF
PAKHOI.
BRITISH CEMETERY
C.M.S. BUNGALOWS
BRITISH CONSULATE
FRENCH CEMETERY
SCHOMBURG & CO.'S PRIVATE RESIDENCE
THE PLAIN.
(40 FEET ABOVE SEA LEVEL.)
FRENCH CONSULATE
FRENCH DOCTOR'S RESIDENCE
FRENCH SCHOOL
GERMAN CONSULATE
CUSTOMS QUARTERS
C.M.S. HOSPITAL
FRENCH HOSPITAL
FOREIGN RESIDENCE
FRENCH MISSION
COMMISSIONER OF CUSTOMS RESIDENCE
FRENCH POSTOFFICE
GERMAN MISSION
FOR. RESIDENCE
FOR. RESIDENCE
FOR. RESIDENCE
FOR. RESIDENCE
LIENCHOW ROAD
FOR. RESIDENCE
CHINESE TOWN.
CUSTOM HOUSE
BEACH
SEA

DR. J. H. LOWRY'S REPORT ON THE HEALTH OF PAKHOI

For the Half-year ended 31st March 1903.

THE general health of foreigners has been fairly good during the past six months. Only four members of the Customs Staff and one of the Postal have been off duty through sickness.

There has been one birth, the lady being on a visit from the neighbouring port; she was a multipara, and made a good recovery.

The winter has not been a severe one—the usual northerly blows, which last three days, then the weather is mild again; the lowest reading of the thermometer was 39° F., on the 30th January. The rainfall has not been great; the largest quantity recorded was in the months of December and March.

Dengue was prevalent in the town during September, October, and November; in the latter month I attended three Europeans, all living in the same house, situated on the Lienchow Road. One of the ladies stricken had not long recovered from her confinement. All three cases did well and the disease ran a simple course; there was much weakness afterwards, and in the case of the male patient there was much weakness of the knees for quite a time after. This is the first occasion that dengue has come under my notice during a long residence in the South. The description of the disease given by MANSON in his *Tropical Diseases** is most accurate—a true picture of the disease.

At the time of writing this Report no cases of bubonic plague have come under my notice, and from daily inquiries there is no outbreak in the town, though this is the time of year the disease is prone to make its appearance in this neighbourhood.

No Europeans now live in the town, and more houses have been built on the healthy plain to which I have so frequently referred to in previous Reports.

I append a sketch-map plan of the plain, kindly drawn for me by Mr. HENNE, of the Imperial Postal Service.

* *Tropical Diseases*, 1898, p. 168, by PATRICK MANSON, M.D.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS taken at the Custom House, 1st October 1902 to 31st March 1903. (Latitude, 21° 29′, N.; longitude, 109° 5′ E.)

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.	
	Highest.	Lowest.	Highest.	Lowest.	No. of Days.	Quantity.
1902.	*Inches.*	*Inches.*	*° F.*	*° F.*		*Inches.*
October	30.26	30.04	91	66	8	1.46
November	30.38	29.95	85	61	1	0.03
December	30.43	29.92	82	52	19	4.89
1903.						
January	30.55	29.95	77	39	9	0.62
February	30.48	30.01	78	40	12	1.39
March	30.22	29.75	82	51	10	3.39

RAPPORT MÉDICAL SUR LA SITUATION SANITAIRE DE LONGTCHÉOU

DU 1ER JUILLET AU 31 DÉCEMBRE 1902,

Par le Docteur F. PÉLOFI.

DE LA PESTE (瘟疫, 時症).

LA peste est appelée par les Chinois *wên-i* (瘟疫), comme c'est un nom de malheur, ils préfèrent la dénommer *shih-chêng* (時症), maladie saisonnière, à cause de la périodicité avec laquelle elle semble se montrer. Je suis arrivé à Longtchéou au mois de juillet, au moment où venait de finir la dernière épidémie. D'après les renseignements que j'ai pu recueillir, rarement elle avait sévi avec autant de violence et il n'y aurait pas en moins de 1,200 décès à enregistrer en moins de trois mois. L'épidémie aurait duré de la dernière moitié de mars à la fin de juin. C'est la maladie qui, à Longtchéou, donne le plus fort coefficient à la mortalité et si j'en avais été le témoin, je me serais efforcé de donner sur la peste de Longtchéou les détails pouvant intéresser la clinique et la statistique. C'est ainsi que je manque de documents pour produire un tableau comparatif des succès et insuccès pour les malades traités à la sérothérapie pendant la dernière épidémie. J'ai pu cependant faire quelques recherches, pour exposer succintement les origines et le mode probable de la première propagation de la maladie et résumer ses caractères symptomatiques. La peste de Longtchéou, serait, au dire des habitants du pays, un produit d'importation du Yunnan. Cette opinion accréditée au Quangsi, peut-être vraisemblablement soutenue, étant données les voies de communication qui relient les deux pays.

Il se fait en effet un assez grand commerce d'importation et d'exportation entre le Yunnan et Longtchéou à la fois par voie d'eau et par voie de terre. La rivière Yeou-kiang qui prend sa source dans la région montagneuse du Yunnan et se jette à Nanning dans le Si-kiang, est une voie de communication pratiquée par les sampans et les jonques pour l'importation de marchandises diverses et en particulier de l'opium. Ces marchandises arrivent ensuite à Longtchéou en remontant le Si-kiang; mais la voie fluviale ne semble pas être incriminée pour avoir servi à la propagation de la maladie, car les cas qui ont été constatés à Nanning et à Taiping-fou n'auraient fait leur apparition que secondairement à ceux déjà observés à Longtchéou. L'attention s'est davantage portée sur la voie de terre, constituée par de petits sentiers partant des différents postes du Yunnan et longeant la frontière du Tonkin pour venir aboutir au camp de Lientcheng, et de là directement à Longtchéou. Ces sentiers sont fréquentés par des caravanes muletières échangeant les produits des deux pays, mais employés plus particulièrement au ravitaillement en vivres et en armes des postes du Yunnan et du camp de Lientcheng.

Le Docteur SIMOND, médecin du poste en 1893, a déjà parlé de ce mode de propagation auquel il attribue une épidémie de peste survenue à cette époque, d'abord au camp de Lientcheng et consécutivement à Longtchéou. Quoiqu'il en soit la peste a établi ses germes dans le pays et annuellement la population est en partie décimée par l'épidémie. Elle fait d'ordinaire son apparition à la fin de février et s'éteint dans le courant du mois de juin. Le médecin a le regret de se trouver tout à fait désarmé devant les mesures prophylactiques. Il y a cohabitation des animaux avec les habitants; il n'existe aucun service de voierie, de telle sorte qu'un magma de purin d'animaux et de matières organiques en putréfaction stagne autour des habitations sans que rien puisse aller à l'égoût qui serait pourtant d'une bien facile installation à cause de la déclivité naturelle de la ville sur la rivière Si-kiang; le soleil seul dessèche par l'évaporation tous ces détritus d'hommes et d'animaux.

Il en est de même pour les mares à l'eau croupissante, verdâtres de moisissures, et formant de vrais dépotoirs, établis en plein centre et aux quatre coins de la ville. Il s'en dégage des émanations fétides dont la population ne semble guère se préoccuper. Que dire de la prophylaxie dans les habitations? Les morts sont conservés, par tradition à domicile, dans les cercueils souvent mal fermés, et d'autant plus longtemps qu'ils appartiennent à une classe plus aisée.

On comprend dès lors qu'il soit fait chaque année dans le pays une plus forte réserve de germes pestilentiels pour les années suivantes.

L'épidémie n'a de la sorte qu'à renaître de ses cendres; elle fait de la reviviscence, dès qu'apparaissent les conditions de milieu favorables à l'éclosion.

Le froid et la chaleur excessive paraissent enrayer le mal, puisqu'il est surtout en effervescence aux mois de mars, avril et mai. Je n'ai pas entendu dire que l'épidémie s'annonçât autrement que par une forte mortalité des rats; les poules, les buffles, les chevaux, n'auraient pas servi de signes prodromiques, du moins en tout que cas assez nombreux pour attirer l'attention. Les sujets frappés confirment la théorie du lieu de moindre résistance (locus minoris resistantiæ); succombent surtout les débilités, soit par cause morbide, ou par misère physiologique. C'est ainsi que les Thos, les Muongs et les Annamites qui constituent une partie de la classe pauvre de la ville, payent un très large tribu à l'épidémie. La classe aisée jouit, au contraire, d'une certaine immunité et on ne saurait autrement l'expliquer que par le meilleur confort de l'habitation et de l'alimentation.

Si aucun Européen n'a encore jamais succombé, ce qui a fait croire à quelques uns, à l'immunité de la race, c'est à l'unique raison de l'hygiène, du meilleur confort de l'isolement et aussi du petit nombre qu'il faut attribuer le privilège.

Il m'a semblé intéressant de rechercher dans les observations de mes prédécesseurs, les manifestations cliniques de la maladie, pour savoir si la forme observée était toujours à-peu-près la même, et si la maladie pouvait revêtir en quelque sorte un caractère local. La forme bubonique est la plus commune; la forme foudroyante constitueraiet un peu moins du tiers des cas observés; je trouve quelques rares observations de peste à forme ambulante, et aucune de peste pulmonaire, ni de peste intestinale.

La vérité doit être que la maladie sévit ici avec tout son cortège de variétés; la maladie à forme bubonique, la plus fréquemment observée, se présente avec le tableau symptomatique suivant:—

1°. Période d'invasion: frisson, céphalalgie, lassitude générale, hyperthermic (minimum des températures observées, 40°.5).

2°. Période d'état: vers le 2e ou le 3e jour apparition de bubons, ordinairement et par ordre de fréquence aux régions inguinale, axillaire et cervicale avec tension, douleur et rougeur de la peau à leur niveau. État adynamique très prononcé; dans les cas mortels, la mort survient entre le 5e et 6e jour.

3°. Période de déclin: entre le 6e et 10e jour, résolution ou suppuration des bubons. Si le sujet est porteur de plusieurs bubons, il n'y en a d'ordinaire qu'un qui entre en suppuration, ce qui est considéré comme un signe de bonne augure.

DES EUROPÉENS.

Le chapitre de la pathologie relative aux Européens du poste ne se prête pas à de grands développements, étant donné leur petit nombre; nous n'avons jamais été en effet au delà de sept pendant le deuxième semestre 1902. En voici du reste la répartition d'après les services: consulat, trois; Douane, deux; mission, un; Compagnie Fives-Lille, un.

Le petit contingent de population a fourni deux malades médicaux dont un décédé. Le cas mortel a été un anthrax diffus de la région dorsale, compliqué de diabète; l'autre, un cas de fièvre palustre intermittente avec nombreuses rechutes. L'élément européen me paraît trop insuffisant pour faire des considérations sur sa morbidité particulière à Longtchéou et son degré de résistance au climat; mais si je m'en rapporte à ce qu'ont observé et écrit mes prédécesseurs et à ma courte expérience personnelle, je crois pouvoir déclarer que les conditions climatériques et nosologiques de Longtchéou ne semblent guère différer de celles du delta du Tonkin.

C'est ainsi qu'on ne relève aucun cas de bilieuse hématurique, ni d'accès pernicieux sous n'importe quelle forme. En revanche les maladies épidémiques s'abattent de temps à autre sur la ville, mais cela me paraît surtout tenir aux conditions désastreuses d'hygiène dont j'ai déjà parlé.

SERVICE DES DOUANES IMPÉRIALES CHINOISES.

Le médecin du consulat assure le service médical des Douanes impériales chinoises. L'aménité des rapports qui ont uni le médecin avec les différents commissaires qui se sont succédés et la bienveillance montrée par eux en toutes circonstances rendent ce service particulièrement agréable. Il est aisé de comprendre que la morbidité ne soit pas d'un coefficient élevé, étant donné le chiffre du personnel. Néanmoins, depuis le mois de juillet, il y a eu à enregistrer deux cas qui ont présenté un caractère d'assez forte gravité; au mois d'août une femme d'un des agents chinois a subi avec succès un curetage de l'uterus pour une métrite

hémorrhagique qui avait mis sa vie en danger; et au mois de novembre, j'avais à pratiquer l'amputation de l'index gauche chez un agent européen pour une plaie contuse par arme à feu. J'ai eu aussi à exciser une adénite cervicale chez une fillette d'une douzaine d'années. C'est tout le bilan de la chirurgie. Les malades médicaux n'ont présenté que des cas sans importance; c'est à peine si je puis relever quelques cas de fièvre paludéenne chez les coolies trams, un ou deux cas de pharyngite, et enfin un cas d'érythrasma.

DES INDIGÈNES.

Le médecin du consulat donne des soins gratuits à tous les indigènes du pays qui réclament son concours. Ils viennent nombreux aux consultations qui se donnent au dispensaire et paraîssent accorder en notre art de guérir la plus grande confiance; pour qu'ils soient satisfaits, il faut que le traitement appliqué assure une guérison rapide; ils s'abandonnent avec confiance pour le pansement des plaies, le traitement des affections vénériennes et les affections oculaires à forme bénigne; la quinine, l'iodoforme et les antiseptiques en usage pour les pansements, jouissent parmi eux d'une véritable vogue. Si la guérison tarde à venir, comme cela se produit dans les différentes affections chroniques, ils perdent vite espoir, et retournent au médecin chinois et aux superstitions. Les mandarins distinguent mieux la nature du mal avec la différence d'évolution et accordent davantage au traitement le temps nécessaire.

Quoiqu'il en soit, les indigènes tirent de la présence du médecin européen à Longtchéou le meilleur bénéfice et s'adressent volontiers à lui dans tous les cas de besoin; il est vrai aussi de dire qu'ils sont attirés par la gratuité de la consultation et du médicament. Quand les troupes du Maréchal Sou stationnent en ville, le médecin européen devient en quelque sorte le médecin de la garnison; les soldats sont en effet l'élément le plus nombreux de la population qui ait recours à nos soins. Ils viennent surtout pour des plaies et ulcères, la fièvre et les maladies vénériennes. Les autorités chinoises envoyent assez fréquemment des malades des environs; c'est ainsi que tout récemment le préfet de Taïping-fou a envoyé à Longtchéou, pour le faire soigner sur place, un de ses parents atteint d'otite moyenne suppurée. Son Excellence le Maréchal Sou, parti en campagne contre les pirates, a écrit deux fois pour nous prier de soigner particulièrement quelques-uns de ses officiers et hommes blessés. Un de ses officiers a, du reste, à l'ambulance de Langson, subi une opération chirurgicale dont le succès a produit un heureux retentissement dans le monde des mandarins chinois où le blessé a été revu après sa guérison.

Ce cas particulier de malade chirurgical m'amène à dire, qu'en général, les Chinois n'aiment pas être traités au bistouri.

Bon nombre de malades ne sont plus revenus continuer leur traitement du moment que je les ai avertis que leur état nécessitait une intervention sanglante; ils ne me paraîssent pas s'expliquer très bien la pathogénie de la plupart de leurs affections; pour eux l'art de guérir consiste à boire le médicament, pour se servir de leur tournure de langage, ils ne comprennent pas qu'une intervention locale ne soit pas accompagnée de boisson, alors même qu'il s'agit d'affection ne relevant d'aucune diathèse.

Il faut boire ou avaler pour traiter un kyste sébacé comme pour une syphilis.

Je devrais terminer ces quelques considérations par un aperçu sur la nosologie du pays; je crois que le tableau récapitulatif des maladies traitées pendant le semestre servira à en donner une idée plus précise.

MALADIES TRAITÉES PENDANT LE DEUXIÈME SEMESTRE 1902.

I.—Clinique médicale.

Maladies climatiques.

Anémie	4	Diarrhée	10
Bronchite aiguë	3	Fièvre gastrique saisonnière	2
Broncho-pneumonie	1		

Maladies épidémiques.

Variole	2

Maladies endémiques.

Cachexie palustre	10	Goître	1
Dyssenterie	8	Lèpre	2
Fièvre palustre	75	Orchite paludéenne	6

Maladies constitutionnelles.

Rhumatisme articulaire	8	Syphilis	25
Scrofule	2	Tuberculose	4

Intoxications.

Intoxication aiguë par l'opium	1

II.—Clinique chirurgicale.

Plaies.

Plaies par morsures d'animaux	1	Plaies simples et ulcères	125

Phlegmons et ulcères.

Adénite suppurée et abcès divers	15	Phlegmon périnéphrétique	1

Fistules.

Fistules anales	2

Tumeurs.

Kyste sébacé du cuir chevelu	5	Lupus de la face	1

Maladies de peau.

Ecthyma	4	Herpès circiné	12
Furonculose	15	Psoriasis palmaire syphilitique	1
Gale	4		

Maladies des yeux.

Conjonctivite catarrhale	25	Ophtalmie purulente	2
Ectropion	1	Taie de la cornée	6
Kératites	2		

Maladies des femmes.

Métrite chronique	1

Maladies vénériennes.

Balanite suppurée chronique	1	Chancre phagédénique	2
Blennorrhagie	55	Chancres mous	15

RAPPORT MÉDICAL SUR L'ÉTAT SANITAIRE DE MONGTZE

DU 1ER OCTOBRE 1902 AU 31 MARS 1903,

Par le Docteur GEORGES BARBÉZIEUX.

I.—LE POSTE DE MONGTZE: CRÉATION D'UN HÔPITAL.

DEPUIS deux années le poste médical de Mongtze a pris une importance plus considérable. La venue de nombreux agents de la compagnie de construction du chemin de fer du Yunnan; la création d'un hôpital français de cinquante lits, dont vingt pour les indigènes, admis à titre gratuit, expliquent l'augmentation de cette importance.

L'hôpital de Mongtze, ouvert le 1er janvier 1903, enregistrait au 1er août 1903 un millier de journées de présence d'Européens, Français et étrangers, appartenant aux divers services de la compagnie du chemin de fer, et environ six cents journées de présence d'indigènes, appartenant à la population de Mongtze.

Pendant les troubles du mois de mai, l'hôpital de Mongtze a reçu douze soldats blessés et un officier.

Les maladies traitées relèvent toutes, ou à peu près, du *paludisme*, chez les Européens. Fièvre intermittente, congestions du foie, de la rate, dysenterie, ont fourni un contingent considérable de malades—affections contractées en cours de route, pendant le voyage de Hanoi à Mongtze, affections préexistantes chez de vieux coloniaux, ayant fait déjà un long séjour au Tonkin, ou venus de quelqu'une de nos possessions africaines.

II.—LE PALUDISME À MONGTZE.

Toutefois—et j'insiste sur ce point,—il y a un paludisme spécial à la région de Mongtze, contrairement à ce qu'on a écrit, à ce qu'on pense le plus communément. J'en trouve la preuve dans les nombreux indigènes atteints de fièvre intermittente, gens qui n'ont jamais quitté Mongtze, qui ne sont jamais allés dans les régions basses, réputées malsaines. J'en trouve la preuve dans les non moins nombreuses observations, que j'ai recueillies, d'Européens qui ont traversé le Tonkin sans être touchés par la *malaria*, qui arrivent bien portants à Mongtze et qui, au bout de deux, trois ou quatre mois, "empoignent" leur premier accès de paludisme.

C'est, naturellement, au début de la saison des pluies que le paludisme se manifeste avec le plus de violence. Le défoncement des rizières, l'éclosion de myriades de moustiques, la

contamination des puits où les infiltrations d'eaux infectées sont rendues plus faciles, enfin, l'absence de toutes mesures prophylactiques (tant cette idée est ancrée dans les esprits, qu'il n'y a pas de paludisme sur les hauts plateaux du Yunnan) expliquent suffisamment la naissance, le développement et la diffusion du microbe de la *malaria*.

Ce n'est pas sans raison que, dans ces dernières années, on a incriminé le moustique comme propagateur du paludisme. Les observations cliniques que j'ai recueillies à ma consultation et dans mon service hospitalier, me permettent d'affirmer qu'il y a, chez nos impaludés, un rapport net de cause à effet, entre la piqûre de moustique et la fièvre. J'ai toujours trouvé, chez les malades que j'ai soignés, cette porte d'entrée de la fièvre, ouverte par le moustique. Il semble même—bien que je n'aie pas encore de données très rigoureuses—que la période d'incubation de la fièvre, après la piqûre, n'excède pas trois ou quatre jours; quelquefois la fièvre apparaît le second jour. Mais, je le répète, ce ne sont encore que des notions imprécises et qui demandent à être vérifiées.

L'étude, exclusivement clinique, que j'ai faite de cette question, m'a conduit à une seconde opinion, sur laquelle j'appelle l'attention des microbiologistes et des cliniciens. J'ai constaté en effet, depuis plus de deux années, que les accès de fièvre allaient en diminuant de nombre et d'intensité, après un assez long séjour dans notre région. On a parlé *d'acclimatement;* ne devrait-on pas plutôt penser à une sorte *d'immunité acquise*, à une sorte de *vaccination* par le moustique lui-même? Dans un organisme atteint antérieurement et guéri, le virus, de nouveau transmis, a perdu sa vigueur et ne produit plus les mêmes effets. L'observation confirme, ici, la théorie et il est permis de supposer qu'au bout d'une série d'inoculations pathogènes, l'organisme *vacciné* est définitivement mis à l'abri de la maladie.

Il est à remarquer également que la fièvre, telle que nous l'observons à Mongtze, n'a pas les mêmes caractères cliniques que la fièvre contractée dans d'autres régions, au Tonkin, sur le Fleuve Rouge, ou ailleurs. Ici, ce qui domine, ce sont les symptômes gastro-intestinaux: la diarrhée est la règle, diarrhée persistante, résistant au traitement habituel, cédant momentanément à l'administration de la quinine à doses massives. Cette diarrhée qui dégénère très rarement en dysenterie—bien que j'aie récemment vu le cas se produire, où le malade atteint succomba des suites d'une perforation de l'intestin, avec appendicite—dure de longs mois, pendant toute cette période d'acclimatement dont je parlais tout à l'heure.

La quinine, l'oxyde de zinc, associé au bicarbonate de soude, la poudre de quinquina, préparée en bols, à l'aide d'un sirop de sucre, sont le traitement de prédilection. Mais la maladie ne cède jamais immédiatement, et c'est seulement quand—probablement pour la cause que j'invoquais précédemment—*l'immunité* est acquise, que ce symptôme du paludisme disparaît.

III.—Piqûres de moustique et plaies annamites.

Le moustique, propagateur de la fièvre, est encore l'auteur d'autres méfaits: je veux parler de ces plaies ayant l'aspect, la forme de l'ecthyma, plaies dites *annamites*, à la fois si douloureuses et si rebelles au traitement. C'est encore, le plus souvent, à la suite d'une piqûre, mal soignée et qui *s'envenime*, qu'éclate cette affection qui n'est pas toujours sans danger, qui

gagne de proche en proche et finit par constituer de larges ulcères, très difficiles à guérir. On sait, en effet, que tous les antiseptiques locaux échouent contre la plaie annamite, ce qui tend à démontrer le caractère *d'infection générale* de cette maladie. Aussi n'a-t-on pas manqué de les proscrire et de les remplacer, avantageusement, par de grands lavages d'eau bouillie, appliquée à 45° ou 50° C. En même temps, on institue un traitement général, constitué par l'administration de quelques purgatifs salins, de la quinine et de l'arsenic.

IV.—Traitement des plaies et des dermatoses par l'ambrine.

Un de nos plus distingués confrères, ancien médecin de la marine, le Docteur Barthe de Sandfort, de passage à Mongtze, connu dans le monde médical pour ses recherches sur le rhumatisme et le traitement de cette affection par "*l'ambrine*," eut l'idée de traiter les plaies, les dermatoses par des applications de ce nouveau produit.

L'ambrine est une matière plastique où la paraffine est associée à quelques autres substances analogues, et qui fond aux environs de 70° C. Appliquée pure, ou associée à quelques produits médicamenteux, comme l'oxyde de zinc, l'acide borique, le bismuth, etc., elle forme sur la partie malade, grâce aux minces couches d'ouate hydrophile interposées, une carapace, à la fois solide et suffisamment élastique pour ne pas gêner les mouvements, qui isole la plaie. L'ambrine, que l'on porte à une température de 140° à 150° C., est donc aseptique; on l'applique, sans que le malade accuse une trop vive douleur, à 60° C. environ. Les résultats thérapeutiques ne se font pas attendre et les plaies qui, par les traitements habituels, exigeaient plusieurs semaines de soins, ont été guéries en quelques jours, après quatre ou cinq applications d'ambrine *pure*, ou associée à un produit médicamenteux.

Les expériences faites à l'hôpital de Mongtze ne laissent aucun doute à cet égard: toutes les plaies y sont traitées et guéries par des applications d'ambrine. D'autres expériences, faites avec l'ambrine, ont porté sur des *eczémas*, de *l'herpès*, du *psoriasis*, et nous ont confirmé dans cette opinion que l'ambrine deviendra le traitement de choix de toutes les affections de la peau, comme elle a été, au début, le traitement du rhumatisme et des névralgies. Les observations recueillies seront d'ailleurs publiées avec celles prises dans plusieurs grands services hospitaliers de Paris. Je ne fais que noter ici, en passant, les résultats obtenus et qui sont de nature à intéresser tous les médecins coloniaux, qui ont à soigner tant de dermatoses, depuis la vulgaire "bourbouille" des pays chauds, jusqu'à l'ulcère annamite.

V.—De la lèpre.

Dans la région de Mongtze, la lèpre existe normalement et c'est par centaines que les lépreux se sont présentés à notre consultation, depuis deux ans et demi que nous exerçons dans ce pays. Le traitement classique de la lèpre par *l'huile de chaulmoogra*, à la dose de 200 gouttes par jour, par les toniques (glycero-phosphate, quinquina, fer, arsenic), est encore le traitement de choix. Les lépromes, les plaies sont traités par les procédés habituels, pansements antiseptiques (sublimé, acide phénique, iodoforme). L'amélioration, quand le traitement est bien

dirigé et bien suivi, est la règle, et nous avons quelques cas non de guérison, le temps n'étant pas encore assez long, qui s'est écoulé depuis la disparition des accidents de lèpre, mais d'une amélioration persistante et telle, qu'elle peut être considérée comme une guérison—*momentanée.*

Résumé.

En fait, l'état sanitaire à Mongtze, sous un climat favorable et relativement tempéré, est satisfaisant. Nous n'avons eu qu'un seul décès d'Européen à déplorer, consécutif à une entérite membraneuse grave. Encore s'agissait-il d'un malade déjà déprimé, souffrant d'une gastrite alcoolique. Un autre décès s'est produit, mais c'est celui d'une malade atteinte d'une affection organique du cœur et ataxique.

A la Douane, en dehors de quelques employés indigènes atteints d'affections légères, qui ont réclamé les soins du médecin, l'état sanitaire est toujours parfait. Un seul employé indigène a dû être évacué pour tuberculose pulmonaire.

RAPPORT MÉDICAL SUR SZÉMAO

POUR L'ANNÉE FINISSANT LE 31 DÉCEMBRE 1902,

Par le Docteur G. A. SAUTAREL.

L'ANNÉE 1902 n'a présenté rien de saillant à noter.

La santé des Européens s'est maintenue excellente, sauf pour un qui eut à souffrir de paludisme.

Il résulte de mes observations à l'égard des Européens, que ceux-ci ne doivent pas être envoyés à Szémao, passé l'âge de la quarantaine. Il ne faut pas oublier quelles conditions de vie leur sont faites ici: logement chinois plus ou moins bien aménagé, situé à un des points les plus bas de la colline où est assise la ville; nourriture invariable composée de quelques légumes frais, de viande de porc et de bœuf—immangeable à de rares exceptions près; impossibilité matérielle de se procurer un cuisinier convenable, et les Annamites ou Chinois du nord refusent de séjourner à Szémao; enfin, et surtout, impossibilité de suivre, quand on est malade, un régime approprié, par suite du manque de lait naturel, d'eau complètement pure, de glace, et quelquefois, de médicaments.

La Douane possède bien une petite pharmacie, mais ne contenant que des médicaments de première nécessité et quelques pansements.

Si l'on considère, en outre, que Szémao est situé à 500 kilomètres de Mongtze, le poste le plus voisin, c'est dire qu'il est matériellement impossible d'évacuer un malade grave, étant donné qu'on ne peut faire la distance qui sépare ces deux villes qu'à cheval ou en chaise à travers un pays exclusivement montagneux.

Pour toutes ces raisons, il me semble très important qu'on n'envoie à Szémao que des jeunes gens de 25 à 35 ans, dont l'élasticité physique et morale est encore à l'épreuve d'un séjour de plusieurs années ici. Passé cet âge, les habitudes antérieures de confort ont trop marqué leur empreinte pour que des chocs inévitables ne soient pas le résultat d'une résidence par trop différente des autres points de la Chine.

La quarantaine est également l'âge où se manifestent les premières attaques des maladies diathésiques et chroniques, c'est donc l'âge où l'on doit redoubler de surveillance, et où l'hygiène importe d'une façon prépondérante.

Quant aux distractions (même celle de la chasse) que peut offrir la région—bien que cette question puisse rentrer en ligne de compte dans un exposé médical,—je me bornerai à dire, qu'à mon avis, il n'y en a pas, et que celles qu'on a signalées ne sont que du domaine de l'imagination.

Au point de vue Chinois, je dirai à nouveau ce que j'ai déjà fait remarquer dans des précédents rapports,—qu'il est impossible de suivre les malades, car très rares sont ceux qui reviennent une seconde fois.

Il serait difficile au Chinois de ne pas mettre en parallèle le médecin européen et le médecin indigène; or ce dernier est bien plus un marchand de médicaments qu'un clinicien; il en conclue donc logiquement que le médecin européen ne donne que des médicaments sans faire de diagnostic.

Aussi, le malade ne vous renseigne nullement sur les symptômes qu'il éprouve et ne vous en parlerait même pas si vous ne l'interrogiez; il vient chercher simplement un médicament parce qu'il a, dit-il, la fièvre, ou bien chaud et froid à l'estomac.

Il n'est donc pas surprenant qu'il ne revienne pas se présenter à nouveau, de façon à ce que vous puissiez suivre la marche de la maladie et varier, si c'est nécessaire, votre thérapeutique.

Je me bornerai donc à présenter une statistique des maladies médicales et chirurgicales vues pendant cette année 1902. Cette statisque comparée à celles des années précédentes fera mieux ressortir l'augmentation toujours croissante des malades venant à la consultation gratuite, et on est en droit d'espérer que le jour où une infirmerie sera confortablement installée, le Chinois finira par faire la différence qui sépare le médecin indigène du médecin européen.

Du 1er septembre 1898 au 31 août 1899 nous relevons 412 malades.

L'année 1900 donne seulement 247 cas. Ce chiffre plus faible s'explique par les événements survenus en Chine pendant cette année-là, événements qui nécessitèrent l'absence du médecin pendant quelques mois.

Les trois derniers trimestres de l'année 1901 donnent 723 malades, représentant 982 consultations, et enfin 1902 porte le nombre des malades à 1,295 et celui des consultations à 1,443.

STATISTIQUE MÉDICALE ET CHIRURGICALE, 1902.

	JANVIER.	FÉVRIER.	MARS.	AVRIL.	MAI.	JUIN.	JUILLET.	AOÛT.	SEPTEMBRE.	OCTOBRE.	NOVEMBRE.	DÉCEMBRE.	TOTAL.
AFFECTIONS MÉDICALES.													
Fièvre paludéenne dans toutes ses formes	25	21	24	7	31	36	30	16	21	26	30	21	288
Fièvre bilieuse	...	...	...	1	1	...	...	...	...	...	...	...	2
Anémie paludéenne et œdèmes	1	...	...	5	3	8	2	3	5	9	2	...	38
Névrite paludéenne	...	...	...	...	...	...	...	...	1	...	...	...	1
Congestion du foie	2	...	...	...	2	...	...	2	2	...	...	...	8
Diarrhée	...	1	...	...	...	5	...	...	1	...	...	...	7
Dyssenterie	...	...	...	4	4	3	...	...	1	...	...	2	14
Embarras gastrique	4	2	9	12	5	19	7	14	3	12	14	2	103
Entérite infantile	...	...	...	...	...	4	4	1	1	3	1	1	15
Affections pulmonaires	6	...	2	3	5	3	4	9	3	2	4	1	42
Vers intestinaux	...	1	...	...	...	2	...	4	2	1	...	...	10
Rhumatismes	2	1	3	3	3	1	6	5	5	2	3	4	38
Maladies vénériennes :—													
Blennorrhagie	...	1	2	1	1	3	...	3	...	1	...	...	12
Chancre mou	...	...	...	...	...	...	11	1	...	...	...	...	12
Syphilis	2	1	7	1	2	9	1	...	1	2	1	...	27
Affections cutanées de toute nature	3	2	6	8	6	12	14	9	10	10	6	4	90
Lèpre	...	...	...	...	...	...	...	...	1	...	...	...	1
TOTAL DES MALADIES MÉDICALES													708
AFFECTIONS CHIRURGICALES.													
Plaie et ulcère de toute nature	2	6	26	30	36	59	18	16	26	47	47	26	339
Abcès divers et anthrax	9	...	1	3	13	5	7	7	9	14	10	1	79
Morsure de chien	1	...	...	...	4	5	...	1	8	6	5	2	32
Fractures	...	...	...	...	...	...	...	...	1	1	...	...	2
Entorses et luxations	1	...	...	...	2	1	...	2	1	...	...	...	7
Coxalgie	...	...	...	...	1	...	...	...	...	...	...	...	1
Mal de Pott lombaire	...	...	...	...	1	...	...	...	...	...	...	...	1
Ostéites	...	...	...	1	...	...	...	...	...	...	...	1	2
Arthrites sèches du genou	...	...	...	...	2	...	...	1	...	...	...	...	3
Hydarthrose du genou	...	...	...	2	...	...	...	...	...	...	...	...	2
Lymphangite de la jambe	1	...	...	...	...	...	...	...	...	...	...	...	1
Elephantiasis du pied	...	...	1	...	...	...	...	...	...	...	...	...	1
Sciatique	...	...	2	...	...	...	...	...	...	...	...	...	2
Paralysie des extenseurs des doigts par suite de coups de couteau	...	...	...	...	...	1	...	...	...	...	...	...	1
Mastoïdite	2	...	...	...	...	1	...	...	...	...	...	...	3
Parotidite	...	...	...	...	1	...	...	...	...	...	...	...	1
Mal perforant plantaire	...	...	...	...	...	3	...	...	...	...	...	...	3
Otite	...	...	...	...	...	3	...	...	...	...	...	...	3
Affections dentaires	3	3	3	1	2	1	1	...	...	...	1	3	18
Maladies oculaires:—													
Blépharite et conjonctivite de toute nature	...	1	1	3	7	5	11	14	3	3	3	2	53
Kératites de toute nature	4	6	1	2	3	4	2	2	2	1	...	...	27
Albugo, néphélion, leucôme	...	...	...	1	...	1	...	...	...	...	2	2	6
TOTAL DES MALADIES CHIRURGICALES													587
TOTAL MÉDICAL ET CHIRURGICAL													1,295
TOTAL DES CONSULTATIONS DONNÉES À L'ASILE OU À DOMICILE	86	50	92	99	138	218	131	114	118	155	142	100	1,443

OBSERVATIONS MÉTÉOROLOGIQUES du mai 1901 au décembre 1902.

Mois.	Température moyenne.			Nombre de journées pluvieuses.	Pluie tombée par mois.
	Minimum.	Maximum.	Moyenne.		
1901.	° C.	° C.	° C.		Millimètres.
Mai	18.70	30.30	24.50	12	85.4
Juin	20.64	29.68	25.16	18	142.6
Juillet	19.74	28.59	24.16	22	328.5
Août	19.67	27.78	23.72	22	346.6
Septembre	19.06	26.31	22.68	19	198.8
Octobre	...	...	...	...	...
Novembre	13.51	22.32	17.91	7	70.3
Décembre	13.85	19.68	16.77	4	0.8
1902.					
Janvier	6.50	18.00	12.30	4	19.8
Février	8.85	18.92	13.88	5	18.8
Mars	11.97	27.06	19.56	2	11.3
Avril	14.30	29.35	21.82	5	101.2
Mai	...	...	...	...	...
Juin	...	...	...	...	...
Juillet	...	...	...	...	...
Août	...	...	...	...	...
Septembre	18.51	27.27	22.57	11	194.5
Octobre	15.96	24.39	20.29	12	210.5
Novembre	11.54	21.99	16.58	5	56.4
Décembre	...	...	...	...	...

614.0951

CHINA.

IMPERIAL MARITIME CUSTOMS.

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66th and 67th Issues.

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INSPECTOR GENERAL'S CIRCULAR No. 19 OF 1870.

INSPECTORATE GENERAL OF CUSTOMS,
PEKING, 31*st December* 1870.

SIR,

1.—IT has been suggested to me that it would be well to take advantage of the circumstances in which the Customs Establishment is placed, to procure information with regard to disease amongst foreigners and natives in China; and I have, in consequence, come to the resolution of publishing half-yearly in collected form all that may be obtainable. If carried out to the extent hoped for, the scheme may prove highly useful to the medical profession both in China and at home, and to the public generally. I therefore look with confidence to the co-operation of the Customs Medical Officer at your port, and rely on his assisting me in this matter by framing a half-yearly Report containing the result of his observations at.....upon the local peculiarities of disease, and upon diseases rarely or never encountered out of China. The facts brought forward and the opinions expressed will be arranged and published either with or without the name of the physician responsible for them, just as he may desire.

2.—The suggestions of the Customs Medical Officers at the various ports as to the points which it would be well to have especially elucidated, will be of great value in the framing of a form which will save trouble to those members of the medical profession, whether connected with the Customs or not, who will join in carrying out the plan proposed. Meanwhile I would particularly invite attention to—

a.—The general health of.....during the period reported on; the death rate amongst foreigners; and, as far as possible, a classification of the causes of death.

b.—Diseases prevalent at.....

c.—General type of disease; peculiarities and complications encountered; special treatment demanded.

d.—Relation of disease to { Season. / Alteration in local conditions—such as drainage, etc. / Alteration in climatic conditions. }

e.—Peculiar diseases; especially leprosy.

f.—Epidemics: { Absence or presence. / Causes. / Course and treatment. / Fatality. }

Other points, of a general or special kind, will naturally suggest themselves to medical men; what I have above called attention to will serve to fix the general scope of the undertaking.

* * * * *

3.—Considering the number of places at which the Customs Inspectorate has established offices, the thousands of miles north and south and east and west over which these offices are scattered, the varieties of climate, and the peculiar conditions to which, under such different circumstances, life and health are subjected, I believe the Inspectorate, aided by its Medical Officers, can do good service in the general interest in the direction indicated; and, as already stated, I rely with confidence on the support and assistance of the Medical Officer at each port in the furtherance and perfecting of this scheme. You will hand a copy of this Circular to Dr. ....., and request him, in my name, to hand to you in future, for transmission to myself, half-yearly Reports of the kind required, for the half-years ending 31st March and 30th September—that is, for the Winter and Summer seasons.

4.— * * * * *

I am, etc.,

(Signed) ROBERT HART,

Inspector General.

To

THE COMMISSIONERS OF CUSTOMS.

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DR. J. H. McCARTNEY'S REPORT ON THE HEALTH OF CHUNGKING

For the Year ended 30th September 1903.

FROM the 1st January 1903 to the time of writing an unusually large amount of rain has fallen, which has resulted in an exceptionally good rice crop, even in places where failure has never been known; it also diminished the amount of remittent fever compared with the record of previous years, and was the means of frequently cleansing the filthy streets. Within the past two or three years the foreign population of Chungking has been increased two or three times what it was during the few years following the opening of Chungking as a Treaty port. This increase has principally been caused by the fleet of gun-boats, which remain here for nine months out of twelve. The presence here, therefore, of large bodies of men for the greater part of the year has served to prove a point which I have long contended, *i.e.*, that Chungking is the healthiest port on the river. The crews of the various gun-boats have had a good health record during the two or three years they have been stationed here, six deaths only occurring: one of these was owing to accidental drowning, three resulted from scalding from escaping steam, and only one occurred as the result of disease contracted in Chungking—a young officer taken with fever, which terminated in tuberculosis. The other death was from chronic dysentery of several months duration.

Among the foreign residents of the city there was one death (that of a little child, five years of age, from cholera) and four births.

The school for foreign children, which is located on the hills, with an attendance of about 20 children, has had a very good record—I dare say as good as can be shown by any boarding-school in England or the United States. Last spring there was an epidemic of German measles, which attacked nearly every member of the school; but it was only of a few days duration.

At the same time two cases of very severe discrete small-pox were under observation. They were both in children under 7 years of age who had not been successfully vaccinated. In one case the child had been vaccinated several times unsuccessfully, and no doubt contracted the disease from a cat, which had previously strayed into a native compound where a child had died from confluent small-pox. The former child nursed the cat, which had for several days manifested symptoms of illness after leaving the compound.

The second child had never been vaccinated, owing to the disapproval of the parents. I was unable to determine the source of infection; but as small-pox is always present in the spring, it is no wonder that an unvaccinated child should contract the disease.

The first patient was treated according to the old method—plenty of fresh air and all the light that six or eight windows would admit; frequent baths, with hot water and bi-chloride soap, with inunction of carbolic acid. He recovered without any pits.

The second child was subjected to red light, with much the same treatment in general, the results not being so good as in the first patient. The pits are not deep, and no doubt will, within a few years, almost disappear.

During this time nearly all the foreign members and most of the Chinese servants of one of the largest missions (nine foreigners) were confined to their beds with remittent (malarial) fever, caused, not by mosquitoes, but by a hot sun on fresh excavations. Those first affected were occupants of a residence near the excavations, and the disease gradually spread to the other compounds. Many of the workmen were also seized, and some died during the time, because they did not avail themselves of foreign treatment.

After several years observation I have come to the conclusion that the malaria experienced in Chungking is not caused by the mosquito bite: (1°) the early spring, when mosquitoes are not in evidence, is the time when most fever exists; (2°) Chungking is remarkably free from mosquitoes, in many places the mosquito net not being required; (3°) it has always been observed that when the rain comes early and in sufficient quantity to cleanse the streets there is little fever, and *vice versâ*.

Remittent fever is very fatal under native treatment, it being the cause of more deaths than any other disease. Tuberculosis holds a good second place.

Cholera visited this port last autumn, but did not reach here before the middle of October, which was fortunate for us. The first patient coming under my observation was a Japanese traveller, who had arrived from Ichang only two or three days before. It looked as though he had brought the infection with him. The disease did not last long—it had run its course before the middle of November,—and it was not known to have extended farther west.

Several cases of leprosy have at last been located in the city, although in each case the place of birth was given as several days distant from Chungking.

The death rate from tuberculosis among the natives is very high, but having no tabulated statistics from which to base an opinion, I am not able to state the per-centage. Chou-tong, a city in Yunnan province, with an altitude of about 8,000 feet, has been found an ideal climate for sufferers from tuberculosis. Several patients in various stages of the disease sent there from Chungking have quite recovered.

During the past two years I have performed four Cæsarean sections, and have been able to save the four children and three mothers.

Two unusually large ovarian tumors have been removed, the smaller weighing over 70 lb. The accompanying photograph shows one of these cases as the patient appeared a few days before operation. Her age was 50 years; height, 4 feet 7 inches; weight, 145 lb.; weight of tumor, 82 lb. 6 oz.

During the past few years four large hospitals have been opened at this port: one by the London Mission, one by the French Mission, and two by the Methodist Episcopal Mission—one for men and one for women. It may be safely said that no city of equal size in China contains so many hospitals, with an equal number of beds.

I am under obligation to Mr. J. H. BARTON, Harbour Master, for the appended meteorological abstract.

METEOROLOGICAL TABLE, October 1902 to September 1903.

MONTH.	THERMOMETER.		RAINFALL.
	Maximum.	Minimum.	
1902.	°F.	°F.	*Inches.*
October	87	58	5.26
November	79	48	2.23
December	72	40	0.41
1903.			
January	63	36	1.08
February	65	38	0.48
March	77	46	1.53
April	83	53	4.74
May	99	57	7.52
June	95	69	11.46
July	101	67	10.92
August	98	70	8.52
September	98	60	7.20

DR. J. S. GRANT'S REPORT ON THE HEALTH OF NINGPO

For the Half-year ended 30th September 1903.

THE past season has not been particularly trying on account of the heat, yet the health of foreigners during the six months under review has been below the average. Some of the oldest residents here class it amongst our most trying summers.

Including missionaries, there are 95 adult foreigners in the port.

The following is a list of the prevalent diseases seen amongst resident and non-resident foreigners:—

Intermittent fever (quotidian and tertian).	Cholera.
Remittent fever.	Dysentery.
Dengue.	Diarrhœa.
Diphtheria.	Tonsillitis.
	Bronchitis.

Number of deaths, seven; number of births, one.

The causes of death were as follows: cholera, four; nephritis, one; dengue, one (supervening on low Ningpo fever); and pernicious remittent fever, one.

Up to date, five foreigners have been attacked with cholera. Two died on the first day, two on the eighth, and the fifth recovered and is now enjoying fair health.

The treatment of these cases began with a large dose of castor oil and brandy, or, if the stomach was irritable, with 5 grains of calomel, the latter to be repeated in one hour, after which symptoms were treated. At the same time, of course, all accessories were used. Saline injections were used with the two who lived till the 8th day.

I regret to say the temperature chart of the fever case was not properly kept, owing to an illness from which I suffered for a few days at that time; hence it is not reported.

Epidemics have been more than ordinarily prevalent. In April an epidemic of fever broke out, followed in July by diphtheria, and in August by dengue.

Fever.—The fever epidemic was severe, the mortality amongst the Chinese being fully 30 per cent. By some of the Chinese doctors the fever is known as *huo chêng shang han* (火症傷寒) (typhoid), others call it *shih jê chêng* (濕熱症) (remittent fever); they declared it to be contagious, stating that if one in a family was seized with the disease, the other members would be almost sure to contract it. The cases I saw in the hospital were diagnosed as remittent fever. None of them had any distinct typhoid symptoms. I believe I saw more during the first week of the disease. Warburg's, in 3 drachm doses three times a day, acted better than

quinine. I usually had to use the preparation without aloes, as many of the cases had slight looseness of the bowels. Good nursing, and stimulants when necessary, had much to do with our getting better results than the Chinese doctors.

I believe that in no few instances the remittent and typhoid fevers in China may be so similar that mistakes may be made in the diagnosis till postmortems become more common.

Diphtheria.—The epidemic of diphtheria began five months later than in the last year. Mortality, from 40 to 50 per cent. Quite a number of foreigners wisely procured a small bottle of the antitoxin serum, so as to have it on hand in case their children should be attacked; but I am thankful to report that, unlike the previous year, the disease was restricted to the Chinese.

Dengue.—The first case of dengue (*hung sha*, 紅 沙) I saw was on the 13th August. The disease spread very rapidly within two months: at least 90 per cent. of foreigners and Chinese were attacked with it. Work in the Customs and post office on more than one occasion was seriously interfered with. At one hong in the city 28 out of 30 were affected with it; and in another, 18 out of 20. Generally, one attack made a person immune while the epidemic lasted. In three cases, however, I saw two attacks, the interval, terminal fever, and eruption being present in each. One case was reported to me of a foreigner who had three distinct attacks, the time from the first to the third being about six weeks. There is very little, if any, relation between the degree of the eruption and the severity of the attack. Chinese doctors state it is better for the patient to have an abundant eruption.

Miscarriages were not uncommon amongst the Chinese. The birth recorded above occurred when the mother was suffering from dengue in the early stage. A few hours after birth the rectal temperature of the infant was 99°.5 F., and it had a slight attack of dengue. Both mother and child did well.

The following abstract of meteorological observations, taken at Ningpo, have been kindly supplied by the Harbour Master, Mr. A. KLIENE.

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.	
	Maximum.	Minimum.	Maximum.	Minimum.		
	Inches.	*Inches.*	°*F.*	°*F.*	*Inches.*	*Hours.*
April	30.46	29.95	77	50	6.81	88
May	30.30	29.80	96	52	4.61	76
June	30.18	29.54	95	66	3.23	89
July	30.03	29.50	101	66	9.98	150
August	30.20	29.15	95	76	5.92	55
September	30.25	29.90	94	67	5.57	58

DR. W. E. PLUMMER'S REPORT ON THE HEALTH OF WENCHOW

For the Half-year ended 30th September 1903.

THIS year Wenchow has been free from cholera, notwithstanding our frequent communication with Shanghai.

In March this district was visited by an epidemic of cerebro-spinal meningitis. Only two cases came under my personal observation, as nearly all the sufferers were country people. In the P'ing-yang-hsien the mortality was considerable, and there were many deaths after only one or two days illness. The symptoms of the cases observed followed the description of the disease given in "OSLER'S Medicine" (second edition) very closely.

During April and May malarial fever in a very severe form was prevalent and caused many deaths.

Dysentery has been epidemic here during the last three months, viz., July, August, and September. All the cases that have come under my notice in adults have yielded to ipecacuanha in a most gratifying manner, but in one case, a baby, this drug did not succeed in controlling the disease.

Cases of dengue have been brought into this port from Ningpo, and one or two Wenchow men have developed the disease, but there has been no epidemic such as at present obtains in Ningpo and Shanghai. The only foreigner who suffered is one who brought the disease with him and developed symptoms the day after arrival. Wenchow escaped this disease in exactly the same way last year.

This year the Methodist Mission has acquired a bungalow on one of the hills, at a height of 1,200 feet above the sea, distant an hour and a half's journey from the city. The ladies and children who have resided there during the hot months have the unusual experience of having passed the summer at Wenchow without becoming pale and anæmic.

Plague has not yet been seen in Wenchow, although we are in frequent communication with Foochow by junks. The oldest residents are not aware that this disease has ever appeared here.

After an experience of two years I have not met a case of leprosy, nor have I seen a case of undoubted typhoid fever, although from 200 to 300 patients have come under my observation every week at the mission hospital. Syphilis is exceedingly prevalent; gonorrhœa, gonorrhœal rheumatism, and gonorrhœal ophthalmia patients are seen almost every day. Cancer has not come as frequently under my observation here as in England; sarcoma, however, appears to be quite as much in evidence here as there.

Dr. H. M. McCANDLISS' REPORT ON THE HEALTH OF HOIHOW

For the Year ended 30th September 1903.

During the last 12 months Hoihow has been exempt from epidemic diseases, with the exception of measles and whooping-cough, and also about eight cases of cholera amongst the emigrating coolies in the latter part of October. No epidemic disease has affected the European residents.

Malaria of a quotidian type became a serious matter at the harbour light-station. Repeated examination of the premises showed no place in which mosquito larvæ were breeding or could breed; nevertheless, Anopheles were found in considerable numbers in both the European and the native quarters. Some rice fields about a quarter of a mile away showed larvæ in great numbers, and it is evident that the prevailing wind carried them right up the incline toward the light. The officer in charge made nightly war on those mosquitoes found within doors, and, whether due to this crusade or not, the members of the light staff have ceased developing the malarial paroxysms.

Most of the European medical men and women now in China, whether employed directly by the Chinese Government or engaged in missionary enterprise, are directly interested in the welfare of the Chinese; so that, whereas the original intent of the Inspector General in calling for these Reports was that information might be gained for the good of the world at large, it really happens that the Chinese are the most benefited. Scattered as the medical men are by the opening of ports in so many provinces, it gives us untold chances of contributing information affecting the mass of the Chinese people, by timely posters on some of the most important diseases, as when epidemics of cholera, small-pox, plague, dysentery, and beri-beri occur. At other times posters in relation to the care of the eyes, the evils of venereal diseases, cleanliness in matters of childbirth, and the means used against malaria are urgently demanded of a philanthropic heart. It is quite to be expected that the first few times that such posters are put up the evil-minded will pull them down; but by continued patience the confidence of the people is secured. In the dispensary practice, a short printed essay on some important hygienic topic may be used to enclose the prescription paper that is handed to the out-patient. In medical missionary chapels the interest of the audience is vastly increased if the first five minutes are spent in a talk on hygiene, and such talks are of the highest utility.

It is doubtful if any place in China can excel this for the number of lumbricoid worms *per capita* of the population. The system of agriculture is to be regarded as responsible for the enormous prevalence of these parasites. The liquid fertiliser is applied in a spray directly to the

growing garden plants. In nearly all cases when an in-patient registers he is given 4 grains of santonin and 10 grains of extract of cascara, followed the next morning by an ounce of castor oil. "Did you pass any worms?" "Yes." "How many?" "A ball of them." It is useless to begin any line of treatment without this preliminary cleansing of the intestinal tract. It is most objectionable when a patient is being chloroformed for operation for a delay to occur while the patient is vomiting one or two of these horrid worms.

On the other hand, tape-worm is very rare here, and is only found in soldiers and officials who have come from distant parts of China.

There are nearly always several cases of beri-beri under care. Although at different times all of the well-advocated methods of treatment have been followed, in the long run the iron and strychnia as tonic, small quantities of sulphate of magnesia as the necessary laxative, and nitro-glycerine or bromide of potassium when the heart beat becomes too tumultuous, are the remedies used for both the wet and the dry varieties of the disease. Camphorated oil rubs have seemed to do good over the anæsthetic areas. The patients are urged to eat concentrated diet.

In Western countries, where abundant hospital facilities exist, bone necrosis is not allowed to go on from year to year; it receives early attention. Three cases under treatment during the last seven months deserve attention because of the method of repair. The first case was that of the lower jaw of a young man. Partly through incisions at the angle of the jaw and partly through the mouth, the whole lower jaw was removed in various fragments. A cartilaginous jaw, not so large as its bony predecessor, immediately formed. The lower teeth were not reproduced, but the tongue muscles work all right, and the man is able to talk and to "gum" his food, and is now much happier than when foul pus was dripping from numerous sinuses on to his clothing.

The second case was a man with necrosis of the right humerus. Through a long incision 5½ inches of the shaft were removed in one piece as well as several smaller fragments. Cartilaginous tissue had already formed to some extent and the arm is now quite firm.

The third case was that of a man with necrosis of the right femur. The entire circlet of bone from near the condyles to the junction of the middle with the lower third of the femur came away in one piece through a large incision. Repair has already taken place to such an extent that patient can bear his weight on the limb.

In these three cases no periosteum came away with the parts removed, and the new growth has sprung from the inner side of the old periosteum. The jaw case was of four years standing, the femur case of seven years, and the humerus case of ten years. In the arm case the superficial veins of the arm and pectoral regions still remain prominent and black; and in the thigh case the same is true of the thigh and groin. No sufficient cause for the disease was given in either of the three cases. As in most of the bone cases treated here, the syrup of the iodide of iron and cod liver oil have both played a prominent part in the treatment.

A young woman, in her first labour, continued so long with the fœtal head pressing against the pubis that a large vesico-vaginal fistula resulted. The first operation for its repair was done with interrupted catgut sutures carried through from the vaginal to the cystic mucous membrane. Frequent catheterisation was depended on. At the end of 12 days scarcely any

repair had taken place. Time was allowed for the tissues to become firm again, and the second operation was done. After paring the edges, the opening into the bladder was really larger than it had originally been. Seven silver wire sutures were used, and the bladder was drained by means of a drainage-tube weighted with a bullet and allowed to remain in the urethra, removing it only to cleanse. The sutures were removed on the 12th day. The middle wire had cut through, leaving a hole about the size of a lead pencil. After an interval the third operation was done with two wire sutures, and the same method of drainage. At the end of three months there is no dribbling of the urine; but whether the healed-over tissue will stand another pregnancy and labour remains to be seen.

Surgeons to the Chinese learn after a while to enjoy elation with reserve. As for a case in point: the writer operated about 10 years ago and constructed a nose, taking tissue partly from the forehead and partly from the cheek, and congratulated himself on his success. Two months ago the man returned with another complaint, and I found that the nose had shrunken to a most inconsequential knob.

DR. J. H. LOWRY'S REPORT ON THE HEALTH OF PAKHOI

For the Half-year ended 30th September 1903.

THE summer heat has not been excessive, but there have been a number of days at a time when the heat was trying and relaxing, and during August and September there were a number of hot nights.

There have been two births (girls) and one death.

Two members of the Church Missionary Society had to be invalided to Europe—one, a surgeon on the hospital staff and not long stationed here.*

During the period under review it is fortunate to be able to report that there has been no outbreak of plague, and there has been no cholera or choleraic diarrhœa. The rainfall has been sufficient, and there has been no scarcity of water in the wells of the town and district. In the early months of the year there was a scarcity of rice, which much disturbed the district; fortunately, a plentiful supply was imported from Hongkong and Haiphong in April and May.

The death referred to above was an old member of the Customs Service, aged 62 years. He was suddenly taken ill at his gate, returning home to tiffin, on the 19th May, and evidently had an attack of vertigo; he recovered and got home. Two days later he was seen by me; he had symptoms of threatened paraplegia. He died on the 7th July from spinal neuritis. Dr. HILL, of the Church Missionary Society, kindly saw the case several times with me and gave me much help. It was a case of long nursing: many complications set in, and there was little to be done but relieve them as they presented themselves.

I append an abstract of meteorological observations kindly supplied by Mr. R. HENKEL, in charge of the Harbour Master's office.

METEOROLOGICAL TABLE, 1st April to 30th September 1903. (Latitude, 21° 29′ N.; longitude, 109° 6′ E.)

MONTH.	BAROMETER.		THERMOMETER.		RAINFALL.	
	Highest.	Lowest.	Highest.	Lowest.	No. of Days.	Quantity.
	Inches.	*Inches.*	°*F.*	°*F.*		*Inches.*
April	30.25	29.67	88	62	7	2.82
May	30.10	29.69	92	64	15	8.10
June	30.09	29.67	94	73	12	22.36
July	29.98	29.64	92	73	19	15.82
August	30.02	29.64	93	74	14	5.28
September	30.12	29.78	92	73	15	10.32

REMARKS.—The highest reading of the thermometer was on the 5th June, when it registered 94°.

* One (a lady) died before leaving Hongkong, since this Report was written.

RAPPORT MÉDICAL SUR LA SITUATION SANITAIRE DE MONGTZE

POUR LE SEMESTRE FINISSANT LE 30 SEPTEMBRE 1903.

Par le Docteur GEORGES BARBÉZIEUX.

LE POSTE DE MONGTZE.

LE poste médical consulaire de Mongtze, créé en 1898, fut abandonné à la suite des événements, que chacun connait et qui obligèrent les Européens à rentrer au Tonkin. Il était, alors, occupé par mon distingué confrère le Dr. REYGONDAUD, médecin des colonies.

Nommé par un arrêté de M. le Gouverneur Général, en date du 21 avril 1901, je pris possession du poste le 19 juin de la même année. Je m'occupai immédiatement de réorganiser le service, qui, à cette époque, consistait à assurer, chaque jour, une consultation externe, pour les indigènes, à qui l'on accordait, avec les soins gratuits, tous les médicaments nécessaires. A cet effet, un local fut aménagé dans l'enceinte des Travaux Publics et *la clientèle* ne tarda pas à se présenter, si nombreuse, que l'on dût bientôt songer à établir un service plus important, à le compléter par la création d'un hôpital.

Avant d'entrer dans le détail et la nouvelle organisation du poste médical de Mongtze, il est nécessaire de donner un aperçu du milieu climatérique, de l'état du sol, de l'atmosphère enfin du milieu médical de la plaine de Mongtze.

CLIMATOLOGIE.

D'après les cotes relevées par les ingénieurs de la compagnie de construction du chemin de fer du Yunnan, la plaine de Mongtze est située à une altitude de 1,303 mètres.

Le climat, tempéré, rappelle assez exactement celui du midi de la France, avec la différence des saisons, qui sont, ici, bien tranchées, et des différences de température, du soir au matin, qui vont jusqu'à 10° C. Les saisons sont au nombre de deux, la saison d'été, ou *saison des pluies*, de mai à octobre et la saison d'hiver, ou *saison sèche*, d'octobre à mai. Aussi tranchées que soient ces deux saisons, on observe cependant quelques différences dans leur date d'apparition. Cette année la saison des pluies ne s'est guère ouverte qu'au milieu de juin et elle paraît devoir se prolonger jusqu'en novembre.

D'après les observations météorologiques, prises depuis deux ans et demi, la température estivale moyenne maxima, observée à Mongtze, n'a pas dépassé 24° C. La température la

plus élevée, à l'ombre a été de 32° C. La température la plus basse n'a pas dépassé 4° C. au-dessous de zéro. Encore, pendant les trois hivers que j'ai passés à Mongtze, n'ai-je observé cette température minima qu'une seule fois, un seul jour.

Les vents dominants sont ceux du S. S.O., qui alternent avec les vents S. S.E.

Le Paludisme à Mongtze.

Le climat de Mongtze est donc un climat relativement tempéré et cela est dû à l'altitude où nous nous trouvons. Au premier abord, surtout quand on arrive du Tonkin, on est séduit par cette température douce, par le vent léger, qui souffle presque constamment, par la sensation de bien être que l'on éprouve, et la légende s'est immédiatement établie que la plaine de Mongtze est une sorte de paradis terrestre, où le paludisme est inconnu, où les maladies sont rares, où l'on devrait établir le sanatorium idéal, où les malades, venus du dehors, où les convalescents du Tonkin, les grands impaludés, pourraient y retrouver naturellement la santé, sous la seule influence du climat.

Il y a loin, malheureusement, de la légende à la réalité et, s'il est vrai que le climat de Mongtze soit "*agréable*," il n'est pas vrai qu'il soit absolument sain.

Le paludisme existe à Mongtze, paludisme local, non importé, comme on l'a cru et publié, comme je l'ai cru moi-même, avant d'être mieux renseigné, avant d'avoir mieux connu le régime médical de cette région.

La plaine de Mongtze forme le fond d'une cuvette, où les vents tourbillonnent sans trouver d'issue. De nombreuses rizières y sont cultivées; c'est à peine s'il existe, ça et là quelques bouquets d'arbres, en dehors de ceux que la superstition locale y respecte. Les montagnes environnantes sont dénudées; partout l'on rencontre des mares croupissantes, des cimetières ouverts où les cadavres sont enfouis à fleur de terre. Enfin, le voisinage d'une grande cité particulièrement sale, où grouillent, pêle-mêle, bêtes et gens, où toute hygiène est inconnue, complète ce tableau, qui ressemble peu à celui de l'Eden décrit par les voyageurs. Peu ou point d'eau courante; les rivières sont desséchées pendant l'hiver et, dès les premières pluies, l'eau est canalisée et sert à l'irrigation des rizières, au-dessus desquelles dansent des myriades de moustiques, qui transportent la fièvre.

La plupart des puits sont contaminés et les analyses faites par M. Beaudouin, le distingué chimiste de la compagnie de construction du chemin de fer du Yunnan, révèlent dans l'eau de nombreuses matières organiques, qui expliquent la présence à Mongtze, à l'état endémique, de la fièvre typhoïde, de la malaria, enfin de la peste qui, il y a quelques années à peine, faisait encore de nombreuses victimes dans la région.

L'Eau à Mongtze.

L'analyse suivante, faite par M. Beaudouin, provient du puits installé dans la concession française. Elle peut être considérée comme le type de toutes les analyses d'eau faites dans la plaine de Mongtze. Elle est identique à celle de l'eau des deux puits installés dans l'hôpital.

Analyse.

Résidu fixe par litre.	0 gr. 520
Matières organiques et volatiles	0 gr. 0840
$Si O_2$ et sable fin	0 gr. 0810
$Al_2 O_3$	0 gr. 0025
$Fe_2 O_3$	0 gr. 0225
$Ca CO_3$	0 gr. 0580
$Ca SO_4$	0 gr. 0991 (correspondant à SO_3 . . 0 gr. 0583).
$Mg CO_3$	0 gr. 0403 -
Na Cl	0 gr. 0529 (correspondant à Cl . . 0 gr. 0321).
$H_2 S$	fortes traces.

Il est vrai que l'ébullition améliore notablement cette eau sans cependant la rendre potable. Sa composition devient alors :—

Résidu fixe par litre	0 gr. 165
Na Cl	0 gr. 046
$Ca SO_4$	0 gr. 051
$Ca CO_3$	0 gr. 025
Matières organiques	...
$H_2 S$	...
$Si O_2 + Al_2 O_3 + Fe_2 O_3 + Mg$.	0 gr. 043

Je donne, par comparaison, d'après PARKES, la composition d'une eau salubre, qui ne doit pas dépasser, en matières fixes, 0 gr. 114 par litre, sauf le carbonate de chaux, qui peut s'élever à 0 gr. 2.

La perte au rouge ne doit pas excéder 0 gr. 014 au maximum. Le sulfate de chaux, les nitrates et l'ammoniaque doivent ne s'y trouver qu'à l'état de traces ; les nitrites ne doivent pas s'y rencontrer.

Dans l'analyse de l'eau du puits de la concession de Mongtze la perte au rouge s'élève à 0 gr. 0840.

DE LA CONSTRUCTION D'UN SANATORIUM.

L'idée de construire un sanatorium à Mongtze même doit donc être rejetée, au moins dans les conditions actuelles et c'est ailleurs, plus loin ou plus près (les endroits propices ne manquent pas), qu'il faudrait chercher, pour déterminer l'emplacement d'un bon établissement sanitaire.

ACCLIMATEMENT DES EUROPÉENS.

L'Européen, qui vient se fixer à Mongtze, subit presque toujours une période d'acclimatement, que j'ai vu se prolonger pendant une année entière. L'altitude, l'influence profonde du milieu médical ambiant expliquent la nécessité de cet acclimatement. Durant toute cette période, en dehors de la fièvre intermittente—le plus souvent importée par ceux qui viennent du bas,—on observe de nombreux troubles nerveux, accélération du pouls, névralgies, sensation de lassitude générale et quelques troubles gastro-intestinaux plus ou moins graves, diarrhée

persistante, inappétence, amaigrissement considérable, anémie consécutive. A la vérité, ces divers troubles disparaissent assez vite, sous l'influence d'un régime sévère, de la quinine et de la médication martiale. C'est principalement à l'ouverture de la saison des pluies qu'ils apparaissent plus graves et plus rebelles.

Il y a donc lieu de tenir compte de ces observations, notamment quand il s'agit d'envoyer à Mongtze des agents européens, qui doivent être employés aux travaux du chemin de fer. La plupart de ceux qui arrivent, déjà touchés par le paludisme, de ceux atteints par quelque grande diathèse, comme le rhumatisme, l'hémophilie, les cardiaques, les neurasthéniques, se remettent mal, ou sont même obligés de quitter la région pour regagner le Tonkin, ou l'Europe. A cet égard, les statistiques, que j'ai pu recueillir dans mon service hospitalier, ou dans mes consultations journalières à la compagnie de construction du chemin de fer du Yunnan, sont particulièrement instructives et devront être prises en considération, si l'on songe encore à l'établissement d'un sanatorium au Yunnan.

Il est entendu d'ailleurs que je parle toujours de la région de Mongtze et non des régions avoisinantes, que je ne connais qu'indirectement, par les renseignements que j'ai pu recueillir.

Régime médical.

Si, après avoir indiqué l'influence du milieu climatérique et du milieu médical sur les Européens qui viennent se fixer à Mongtze, nous examinons l'influence de ces mêmes milieux sur les indigènes, nous verrons que ces derniers sont tous loin d'être épargnés par la maladie et paient, au contraire, un large tribut aux contingences pathogènes.

Depuis tantôt trois années que j'exerce la médecine dans cette région, près de neuf mille indigènes sont venus réclamer mes conseils et mes soins.

Comme j'ai eu l'occasion de l'écrire dans plusieurs rapports, adressés au Gouvernement Général de l'Indo-Chine, et aussi dans mon dernier rapport adressé à l'Administration supérieure des Douanes impériales chinoises, la région de Mongtze est une région paludéenne.

Je sais qu'on pourrait invoquer contre moi l'opinion de mon distingué prédécesseur, qui, dans un rapport adressé aux Douanes chinoises en 1899, affirmait que le "paludisme," à Mongtze même, n'existait pas; mais le Docteur Reygondaud n'est resté que quelques mois à Mongtze, à une époque où le service médical du poste consulaire n'avait pas l'importance qu'il a acquise aujourd'hui et ses observations ne portent que sur un nombre très restreint de malades. A cette époque l'effectif européen se composait, en tout, de sept personnes et c'est à peine si, dans son rapport, le Docteur Reygondaud relève une centaine de consultations, données à des indigènes.

Dans ces conditions, l'opinion qu'il a émise se ressent encore de l'influence de la légende colportée par les explorateurs et les touristes, qui jusqu'à ces dernières années, n'ont fait que traverser le Yunnan à la façon de météores, brillants, mais aveugles.

L'Hôpital de Mongtze.

Quoi qu'il en soit de ces considérations générales, Mongtze a pris, depuis l'établissement de la compagnie de construction du chemin de fer du Yunnan, une importance, momentanément,

considérable et le service médical dut rapidement être complété et amélioré. La population européenne, à Mongtze même, s'est élevée à plus de cent personnes, y compris les femmes et les enfants, et tous les agents malades de la compagnie, dans le ressort de Mongtze, ceux qui viennent de diverses sections plus éloignées, établies sur le parcours de la future ligne du chemin de fer, portent le nombre de la population médicale à un nombre beaucoup plus considérable.

La création d'un hôpital consulaire à Mongtze fut décidée par un arrêté du Gouverneur Général de l'Indo-Chine, en date du mois d'octobre 1901 et l'hôpital fut inauguré le 1er janvier 1903.

L'hôpital de Mongtze, situé dans un terrain de 5 hectares appartenant à l'Indo-Chine, reçoit des malades à titre onéreux et des malades *indigènes* à titre gratuit. Il contient douze grandes chambres d'Européens à trois lits, un pavillon de cinq chambres pour les indigènes, enfin un pavillon d'isolement. A l'hôpital est annexé un pavillon pour les consultations externes et le service de la pharmacie. Le médecin est également logé dans l'hôpital où une maison particulière lui est réservée.

Par un accord intervenu entre le Gouvernement de l'Indo-Chine, le Consul Général de France à Yunnan-sen, la compagnie de construction du chemin de fer du Yunnan et le médecin du Consulat de France à Mongtze, les malades payants, pour la plus grande partie agents de la compagnie, sont répartis en trois classes :—

1ère classe, agents dont le traitement atteint	fr. 12,000
2ème classe, agents dont le traitement est inférieur à	„ 12,000
3ème classe, agents indigènes.	
Le prix de la journée, pour la 1ère classe, est de	fr. 7.50
„ „ „ 2ème „ „	„ 6.00
„ „ „ 3ème „ „	„ 2.50

Les recettes effectuées, avec quelques subventions, dont je vais parler tout à l'heure, constituent le budget de l'hôpital qui vit ainsi de ses propres ressources, qui réalise même un léger "boni" servant à l'amélioration du régime, à l'entretien des locaux, au remplacement des objets mobiliers, devenus inutilisables, au salaire du personnel supplémentaire, enfin à l'entretien des indigènes admis gratuitement à l'hôpital.

En dehors de ces recettes, l'hôpital reçoit de l'Indo-Chine une subvention mensuelle de 45 piastres pour le personnel indigène, plus une subvention annuelle de 100 piastres pour frais divers.

De son côté, la compagnie de construction du chemin de fer du Yunnan alloue à l'hôpital de Mongtze une subvention de 120 francs par mois. Enfin les médicaments jusqu'à concurrence de 500 piastres sont fournis par l'Indo-Chine.

Le médecin de l'hôpital est chargé de la nourriture et de l'entretien de tous les malades hospitalisés, moyennant un prix forfaitaire fixé de la manière suivante par M. le Consul Général de France à Yunnan-sen :—

Malades de 1ère classe	fr. 6.00 par jour.
„ 2ème „	„ 5.00 „
„ 3ème „	„ 0.50 „

La différence entre ce prix forfaitaire et les prix réellement payés par les malades hospitalisés à titre onéreux, les subventions, dont j'ai parlé, aident à constituer le boni, qui permet d'hospitaliser gratuitement les malades indigènes les plus intéressants.

C'est ainsi que depuis le 1er janvier, il a été pourvu aux frais de plus de 600 journées de présence de ces indigènes, qui, la plupart, se présentent à l'hôpital munis d'une lettre de recommandation des autorités locales.

Pendant les troubles de mai 1903, le Taotai de Mongtze fit une démarche personnelle pour que l'hôpital admit les soldats chinois blessés et satisfaction lui fut donnée immédiatement.

Je reproduis ici, pour mémoire, les balances mensuelles soumises à l'approbation et au visa du Consul de France à Mongtze, balances dont la dernière montre, tous frais payés, un excédent de bénéfices disponibles de 304 francs 19:—

1er trimestre 1903:	Recettes	$180.00
	Dépenses	„117.98
	Excédent recettes	$ 62.02
Balance au 30 avril 1903:	Recettes	fr. 844.53
	Dépenses	„ 493.72
	Excédent recettes	fr. 350.81
„ 31 mai 1903:	Recettes	fr. 1,042.41
	Dépenses	„ 569.10
	Excédent recettes	fr. 473.31
„ 30 juin 1903:	Recettes	fr. 1,577.41
	Dépenses	„ 1,555.10
	Excédent recettes	fr. 22.31
„ 31 juillet 1903:	Recettes	fr. 2,634.31
	Dépenses	„ 2,597.82
	Excédent recettes	fr. 36.49
„ 31 août 1903:	Recettes	fr. 2,657.29
	Dépenses	„ 2,387.50
	Excédent recettes	fr. 269.79
„ 30 septembre 1903:	Recettes	fr. 1,585.19
	Dépenses	„ 1,281.00
	Excédent recettes	fr. 304.19

L'hôpital de Mongtze est donc prospère, et a rendu, déjà, de réels services.

DR. RAM LALL SIRCAR'S REPORT ON THE HEALTH OF TENGYUEH

For the Nine Months ended 30th September 1903.

THE writer was appointed Medical Officer of Tengyueh on the 1st January 1903; before this date there had been no foreign doctor appointed to the port. This Report will therefore deal with the nine months from January to September 1903.

SANITARY CONDITION.

Drainage.—Natural drains are generally efficient, and serve a good purpose during floods or heavy rains; but the artificial drains are practically useless, due to their being blocked up with rubbish and to want of cleanliness. Hence they cause a great nuisance in the rainy season; and these and other low-lying places, which are allowed to remain full of stagnant water, breed swarms of mosquitoes, both of the Anopheles and Culex varieties.

Latrines.—It appears that there are no public latrines in the town; the children and most of the males generally resort to natural latrines; and dogs, pigs, and gardeners act as public scavengers.

Personal Hygiene.—The personal hygiene of the people is very much neglected.

METEOROLOGICAL.

The following table shows the maximum and minimum temperature and the total rainfall for each month of the period above mentioned and for the corresponding period of the previous year:—

MONTH.	THERMOMETER.				RAINFALL.	
	Maximum.		Minimum.			
	1902.	1903.	1902.	1903.	1902.	1903.
	°F.	°F.	°F.	°F.	*Inches.*	*Inches.*
January	69	67	33	30	0.15	0.35
February	74	69	33	34	0.25	0.89
March	81	75	38	37	0.87	2.30
April	83	83	46	46	5.33	0.72
May	85	93	52	52	6.15	3.08
June	89	81	61	61	11.38	17.74
July	85	87	61	64	16.68	8.88
August	88	90	61	60	11.68	12.47
September	82	87	56	58	9.88	12.30

The heaviest rainfall for any one day during the period under review was 3.63 inches, as compared with 2.45 inches during the same period in 1902.

The wind is generally north and north-west in the cold weather, and south and south-west from May to September.

I am indebted to Mr. W. B. ANDREWS for the above information.

GENERAL HEALTH.

As far as I am able to judge, the general health of this port was fairly good during the winter and the first part of the spring, but thereafter it has been very unsatisfactory.

CLASSIFICATION OF THE DISEASES TREATED.

The total number of cases treated was 550, viz.:—

Malarial fever	31	Diseases of the circulatory system	1
Dysentery	14	Diarrhœa	10
Venereal diseases:		Dyspepsia	36
Primary syphilis	1	Diseases of the liver	10
Secondary syphilis	6	Other diseases of the digestive system	55
Gonorrhœa	10	Diseases of the spleen	2
Worms	12	„ „ urinary system	10
Debility and anæmia	14	„ „ lymphatic system	7
Rheumatism	11	„ „ organs of generation	25
Leprosy	2	„ „ connective tissue	23
Tubercle of lungs	3	„ „ organs of locomotion	2
Other general diseases (including 2 cases of cancer)	11	Goitre	10
Diseases of the nervous system	16	Ulcers	43
„ „ eye	21	Skin diseases	55
„ „ ear	10	Poisoning	3
„ „ nose	3	Local injuries	16
„ „ lungs	22	Harelip	5
Other diseases of the respiratory system	50		

54 cases among foreigners have been treated, of which 30 were Europeans and 24 Indians. Most of the latter were the followers and servants of a survey party. The diseases for which the foreigners were treated were principally fever and disorders of the respiratory and digestive systems. Of the total number treated, 65 were females and 37 children.

The most prevalent diseases were fever, dysentery, dyspepsia and other diseases of the digestive system, diseases of the lungs and other diseases of the respiratory system (which include a great number of cases of asthma and chronic bronchitis), ulcers, diseases of the generative system (including spermatorrhœa, leucorrhœa, and phimosis), diseases of the connective tissue (including abscesses and whitlows), and diseases of the eye.

Although only 14 cases of dysentery are included in the above list, there was a severe epidemic of typical cases of acute dysentery in the town during June, July, and August, which was very fatal among children. The cause of this epidemic could not be ascertained correctly, but I am of opinion that (*a*) faulty water, (*b*) the custom of using human excreta in gardens, (*c*) ignorance of the contagiousness of the disease, (*d*) injudicious diet, and (*e*) insanitary condition of the sick-room were the direct or indirect causes of the epidemic; because: (*a*) the water of some of the wells is liable to be polluted by absorption of dirty surface water, which stagnates around many wells during the rainy season; (*b*) when the stools of dysentery cases are used in vegetable gardens, the bacillus may be carried back to the human stomach through the medium of vegetables, specially those eaten raw, such as cucumber, radish, peas, green chillies, etc.; (*c*) the stools in cases of dysentery are kept open by the side of the patient for days in a room occupied by other persons: this is a very easy way of spreading the disease, the bacillus being carried by flies and wind to water and food; (*d*) it appears that no special diet is given in cases of dysentery and diarrhœa, and in many cases ordinary food is allowed to be taken freely by the patients; and (*e*) the sick-room is invariably kept shut up and no ventilation is allowed: the rooms are so dark that in certain cases I had, during the daytime, to examine the patients by candle light.

An epidemic of small-pox in sporadic form broke out during the spring, but, I was told, the cases were not very severe.

Vaccination is not known here. Inoculation is carried out in two ways: one by scarification of the arm and inoculation with small-pox serum, the other by blowing the scabs of small-pox vesicles up the nostrils of children. This practice is said to be very dangerous: I am told that a quack has already killed nine out of ten children, and he has been imprisoned by the local authorities. I notified for vaccination, but no one came forward to give it a trial.

There was no cholera, and the people appear to have no idea of the disease.

Leprosy.

I have seen about six cases of leprosy in and around this port. Some of the sufferers have no dwelling-place, and wander about begging. One case is under my treatment in which both legs and feet, fore-arms, and hands are affected with anæsthesia. The left leg and foot and some of the fingers have ulcerated badly. The left leg bone is affected and it is bent slightly forward. The lobes of the ears are swollen a little. Both eyes look stupid and shed tears involuntarily. In one case in the town the patient has almost lost his fingers and toes and is hardly able to walk.

Surgical Operations.

The following operations were performed during the period:—

Extraction of teeth	6	Phimosis	2
Evacuation of abscesses . . .	5	Extirpation of cancerous growth	1
Harelip	5		

In spite of the people having a dread of the knife, I am glad to note that I have been able to perform the above operations with success.

The cancer case was that of a married woman, 30 years of age. The disease was on the sole of her foot and of two years duration. In shape it resembled a cauliflower, and was of about the size of a small orange. It gave a very fetid discharge. It was locally anæsthised by both cocaine lotions and injection of cocaine hypodermically. She felt no pain during the operation. All the harelip and phimosis cases were similarly operated, under local anæsthesia of cocaine, and no chloroform was used.

Miscellaneous Notes.

Three cases of poisoning are shown in the list of cases treated. Two of them, both young women, were cases of opium poisoning; one recovered and the other died. In the latter case I was called a few minutes before death took place. The third case was an unmarried girl, 18 years of age. She was suffering from a small goitre. Some red iodide of mercury ointment was purchased from me, and in spite of the clear directions given for its use, she rubbed half of it on the goitre and swallowed the other half, with a view to a speedy cure. She vomited and rolled about, with burning pain in her stomach and throat. I attended to her case, and she recovered.

There is here a peculiar disease known to the people by the name of *ya chang* (啞瘴). It is fatal in almost every case. After a careful observation of some cases I intend to submit particulars concerning it in my next Report.

The people appeared to be very suspicious at first, and hesitated a good deal to submit to treatment by foreigners or to take foreign medicines; but I am glad to report that this attitude has been gradually changing, and they now have begun to believe in our method of treatment.

DR. A. SHARP DEANE'S REPORT ON THE HEALTH OF WUHU

For the Ten Months ended 31st March 1904.

DURING the period there were few cases of illness among the European residents, and no serious epidemics appeared among the native population. The hot season was exceptionally temperate, and was followed by a mild, dry winter.

The practice of vaccination being very largely carried out in this district, it may be expected that the epidemics of virulent small-pox, which raged here in former years, will be of rare occurrence in the future. Latterly the annual visitations of variola are certainly much less severe than they were some 20 years ago.

Among the European staff of the Customs there were three cases of remittent fever, two of dysentery, one of pneumonia, and one case of neuritis. Other affections of minor importance included cases of bronchial catarrh and disorders of the digestive organs.

One of the cases of dysentery ran a very protracted course, and failed to respond to treatment with ipecacuanha, although this drug was well borne and administered freely in large doses. Ultimate recovery was effected by washing out the bowel with a copious supply (40 ounces) of a warm solution of nitrate of silver, at a strength of 1 grain to the ounce of water. The buttocks being raised, and a soft rubber stomach tube passed into the bowel as high up as possible, the fluid was allowed to gravitate into the intestine and was then removed by syphonage through the same tube, any fluid still remaining in the bowel being expelled in the natural way. Three such lavements were necessary, given at intervals of five or six days, and marked improvement followed each.

During a period of about three weeks in the month of August a number of cases of an affection, reported to be cholera of a very virulent type, occurred on board some of the steamers trading on the Yangtze. It was particularly noticeable that the affection was almost exclusively confined to Europeans on board the steamers coming from Shanghai, mostly among those who had partaken of food served in the saloon, and that the disease did not affect the Chinese passengers, of whom these steamers carried a large number. The majority of those attacked succumbed in a few hours, with symptoms closely resembling those of a lethal variety of cholera; but whether the disease was cholera, and not ptomaine poisoning, there was no evidence. The endeavour to trace the origin of the disease seems to have been beset with the greatest difficulty. Exhaustive inquiries were prosecuted at Shanghai and other places, but, as far as has been gathered, no satisfactory explanation was ever arrived at. Two of these cases were treated at this port: one of them, an officer on board an ocean steamer, which was placed

in quarantine, arrived in a moribund condition and died on board the day following the vessel's arrival; the other, an officer of one of the river steamers, was landed and treated at the I-chi-shan Hospital, where he made a good, but tedious, recovery from the almost hopeless state of collapse in which he was admitted.

In this connexion I would mention that it appears incumbent on the owners of steamers trading on the Yangtze to take steps for the provision at this port of accommodation on shore for such of their employés, or of the passengers carried by them, whom it may be desirable to land here in consequence of infectious disease or other serious illness occurring on board their steamers. The traffic on the river having increased to a very considerable extent, it is not unlikely that urgent appeals for accommodation on shore for people suddenly stricken down with illness may be of increasing occurrence. The hospital here is mainly a surgical institution under the management of Dr. HART, who does all in his power to accommodate the public on the occasions referred to; but its wards being nearly always full there is a lack of accommodation for emergency cases. Furthermore, it cannot be considered fair to thrust infectious cases of disease upon a surgical institution, the fundamental principle of which is to avoid infection. Steamer owners would do well, therefore, to look into the matter of providing for the welfare of such cases as those which occurred on the river between Chinkiang and Kiukiang during the month of August last.

METEOROLOGICAL TABLE. (Latitude, 31° 20′ 38″ N.; longitude, 118° 22′ 5″ E.)

MONTH.	THERMOMETER.			RAINFALL.	MONTH.	THERMOMETER.			RAINFALL.
	Maximum.	Minimum.	Mean.			Maximum.	Minimum.	Mean.	
1903.	°F.	°F.	°F.	*Inches.*	1904.	°F.	°F.	°F.	*Inches.*
June	85	67	75.625	8.06	January	58	30	37.935	0.39
July	91	70	78.322	10.66	February	65	50	48.840	1.18
August	93	76	86.492	6.82	March	64	37	48.674	3.54
September	88	68	76.283	6.29					
October	78	42	66.877	0.84					
November	66	44	40.791	0.49					
December	60	32	36.871	0.05					

DR. E. C. DAVENPORT'S REPORT ON THE HEALTH OF CANTON

For the Fifteen Months ended 31st March 1904.

THE general health of the foreign community has not been altogether good, owing to an increase in the number of cases of typhoid fever, dysentery, and diphtheria.

On the foreign Settlement of Shamien, in 15 months there have been eight births and three deaths. Three deaths also occurred in Hongkong hospitals amongst patients removed from Canton to Hongkong.

Of these six deaths, two were caused by typhoid fever, one was from plague, one from abscess of the liver, one from gastro-enteritis, and one from exhaustion after parturition during an attack of acute diarrhœa.

A few cases of plague occurred among the natives during January and February 1903, but the disease did not appear to spread widely till the following March; it then continued till July, when nothing more was heard of it. Four cases came under my notice, two Chinese and two Japanese, all of which were fatal. One French gentleman resident in Canton contracted the disease in the port and died subsequently in Hongkong.

At the end of this month (March 1904) I find on inquiry that there is little or no plague present in this port. The Chinese say that there were comparatively few deaths last year from plague; but an accurate, or even approximate, idea of the number of deaths is impossible in Canton.

Little or no cholera was heard of in the port during the past year. This fact is worthy of note, as the death rate from this disease was very high the previous year, both among natives and foreigners.

Two serious cases of ptomaine poisoning occurred on steamers in the port; one patient was a Chinese and the other a Customs employé, who had partaken of meat pies. Both patients recovered.

SMALL-POX.

Two cases of small-pox among foreigners occurred in Canton; both these arrived in the port already infected. The first case, a Customs employé, came from Kumchuk, and was isolated in Canton. Patient had been vaccinated once in infancy; had a mild attack of the discrete variety and made an uninterrupted recovery.

The second patient was apparently infected in Shanghai or some other northern port. He was removed on the steamer of which he was an officer to Hongkong, where preparations were made for reception and isolation of patient, re-vaccination of all the crew, and disinfection of steamer. Patient had a severe attack of the confluent type, but ultimately recovered.

DIPHTHERIA.

In all, five cases among foreigners came under my notice during the winter months.

Case 1.—The first case appeared about the end of October, and was, I regret to say, complicated with paresis of both intrinsic and extrinsic muscles of eye and muscles of pharynx. Two months after onset sensory and motory paralysis appeared in all four limbs. The case has proved a longer and more tedious one than usual after diphtheria.

Case 2.—The second case appeared in December. Patient was a Customs employé. This case was characterised by only a small patch of membrane on tonsil, but much membrane in both nares; transient albuminuria and subsequent cardiac irregularity, which was attributed to paresis of vagus. Injected with 6,000 units of antitoxin. Owing to cardiac affection and some weakness in lower extremities, recovery was long delayed. In this case bacteriological examinations were twice made, and streptococci were found, but no KLEBS-LÖFFLER bacilli.

Case 3.—The third case, that of a master of a river steamer, came under my notice on 25th December. Patient complained of sore throat, and on examination a small patch of membrane was apparent on soft palate and uvula only; membrane easily separated, leaving a bleeding surface. Injected with 3,000 units of antitoxin, and left for Hongkong on his steamer. Recovered completely in 10 days.

Case 4.—The fourth case occurred on 19th January. This patient also was master of a river steamer. Membrane present on both tonsils, easily separating. Temperature, 103° F. Pain and difficulty in swallowing. Injected with 3,000 units of antitoxin. Admitted into hospital in Hongkong, where he was again injected. Recovered in about 10 days.

Case 5.—The fifth case, that of a German gentleman resident on Shamien, appeared on 21st January, with sore throat. Temperature, 101° F. Albuminuria for one day only. Membrane on both tonsils. Injected with antitoxin, and recovered in a week.

I briefly mention these cases, because at the time they came under my notice several severe cases of tonsillitis and pharyngitis appeared and were accompanied with marked constitutional symptoms and much œdema of uvula and pharynx.

In Case 2, mentioned above, in spite of the non-detection of any KLEBS-LÖFFLER bacilli, I feel convinced that the case was diphtheritic, on account of the temporary albuminuria and subsequent cardiac lesions. The occurrence of these "throat" cases led me to inquire into the presence or absence of similar cases among the Chinese, and I learnt, through Chinese sources, that there had been in the later summer and autumn months many cases of what they called diphtheria, but that all the cases had recovered. Further, on inquiry at the most largely attended missionary hospital in Canton, little or no diphtheria had been seen. As the mortality was *nil*, I conclude that the cases of sore throats among the Chinese were not of a diphtheritic nature.

Enteric Fever.

In the 15 months 12 cases of enteric fever amongst foreigners have come under my notice, and all, with the exception of three, occurred on Shamien. Two of these proved fatal. The first fatal case occurred on 27th February 1903, and was complicated with malaria. The second case, that of a German gentleman living on Shamien, and who also had malaria, was removed to Hongkong on 27th February 1904, and died on the 22nd of the following month.

Of the 10 cases, all were of a mild type, except two, namely, the first being a lady who had lately arrived in the East from England, and was removed early in the disease to the Peak Hospital in Hongkong; and the second patient being a Customs employé, who was also removed to the Government Civil Hospital in Hongkong, where he ultimately recovered, after a relapse.

At the time of writing a Customs probationer is suffering from typhoid fever at the Government Civil Hospital, where he was sent as soon as diagnosis was confirmed, as the quarters for such cases and the facilities for obtaining the needful and continual attention are inadequate in this port.

Dysentery.

There has been a very noticeable increase in the number of cases of this disease. In all, 23 cases have been treated by me during the last 15 months, and several cases have occurred under the care of my colleagues. Most of them have been of a mild type and respondent to treatment, which consisted of rest in bed, very light diet of milk and chicken broth, ipecacuanha in large doses (about 40 grains) at onset in early cases, and 20 grains of salicylate of bismuth, 10 grains of carbonate of soda, and 5 grains of compound powder of ipecacuanha three times a day till all symptoms have disappeared. With these I have habitually given 2 drachms of sulphate of soda in hot water in the morning, and have, in addition, washed out large intestine with weak solution of boracic acid.

With one exception, all the cases that have been treated after this manner have done well from the onset; but the cases that have been going about doing their work with the disease present on them for many days before submitting to treatment have proved obstinate. The worst case, or rather the most protracted one, was a young man who came under observation on the 3rd day of the disease: was given 40 grains of powdered ipecacuanha, but was unable to retain it, in spite of previous dose of 1 grain of opium.

None of these cases developed any signs of abscess of liver. Microscopical examination of fæces was not made in all the cases, so I am unable to say what proportion of these cases were amœbic dysentery.

Two cases of liver abscess have occurred; but the treatment adopted during their previous illnesses I am unable to record.

In the month of January 1903 a Customs employé was under treatment at the Government Civil Hospital with abscess of liver, which burst into lung, and patient recovered without operation.

A Portuguese clerk on Shamien, in October last year, developed hepatitis, which advanced to suppuration. Patient was removed to Hongkong, and unfortunately died a few hours after operation. He informed me that he had dysentery five months previously, but had not submitted to continuous treatment.

MALARIA.

There have been several cases of malaria during the past year, but mostly of a mild form. One case of malignant malaria from the Customs Service was treated in Hongkong Hospital, where patient ultimately recovered. During building operations in the course of the last year several cases of malaria occurred in two houses in the immediate vicinity when foundations were being laid and earth removed.

GENERAL DISEASES.

The more common diseases treated during the last year have been :—

Anæmia.
Boils.
Calculi.
Chancroid.
Congestion of liver.
Dengue.
Dhobie itch.
Diarrhœa.
Dyspepsia.
Epididymitis.
Gonorrhœa.
Hæmorrhoids.
Hysteria.
Neuralgia.
Neurasthenia.
Pharyngitis.
Scabies.
Stricture.
Syphilis.
Tonsillitis.
Uterine hæmorrhage.

CASE OF BULLET WOUND OF JAW.

A. M., a member of the Customs staff at Samshui, was shot by pirates on the West River. Patient was brought to Canton, and, by kind permission of Dr. J. M. SWAN, was admitted into the American Missionary Hospital. On examination, there was a small external wound where bullet had entered below and a little to the right of nasal septum; teeth, with alveolar and palatal processes of right superior maxilla, were loose.

Roentgen rays revealed bullet lying in jaw at floor of antrum of Highmore. Under chloroform, loose teeth and fragments of jaw were easily removed and bullet extracted. Small process of maxillary process of malar bone was removed with bone forceps. A large opening remained between the mouth and antrum. This closed up chiefly, but not entirely, until a small plastic operation was performed some few months later by Dr. NOBLE, of Hongkong, who constructed a plate with false teeth to fit the mouth. Beyond the trouble and annoyance of removing the plate daily, patient suffers but little inconvenience.

Case of Ectopic Pregnancy.

A case of suspected ruptured ectopic pregnancy at term of six weeks came under my notice on 29th November 1903. After a few days of absolute rest, almost total exclusion of food, injections of morphia, etc., to minimise likelihood of further hæmorrhage, patient showed signs of suppuration, and was consequently removed to Hongkong Peak Hospital under the care of Dr. F. O. Stedman.

I heard from Dr. Stedman that he subsequently opened abdomen and found blood in lower part of abdomen, which was becoming organised; this he removed, together with fœtus, and left ruptured Fallopian tube; flushed cavity with saline solution, and drained it with iodoform gauze. Patient returned to Canton, and is now quite well.

Buildings.

During the past year several houses and godowns have been built on the Concession of Shamien, but the accommodation for the increasing population is still insufficient.

Drainage.

The drains on Shamien are, I regret to say, in a very defective and insanitary condition. The "outhouses" of several "lots" have been found to be very unhealthy and to have a very deficient accommodation for Chinese servants. Repairs and improved systems are now in course of construction.

For many years past the drainage of Shamien has been carried out by the deep system of drains, which are composed chiefly of glazed tiles and bricks, with little or no cement, and without any bed of concrete. The central drains are in many cases at the present time lying at a lower level than the exits of the mains at the Bund, this sinking being due to the fall of the central portion of the Settlement, which is owing greatly to the pervious condition of the existing drains and continuous carriage of sand, etc., as the drains empty at each fall of the tide. Many drains have been found to be almost entirely occluded by roots of trees, of which there are many on Shamien, and also detritus of all kinds. Sewage, etc., now percolates through the pervious drains into the bed of sand, and ultimately pollutes the only water supply, namely, the wells. Furthermore, at high tides, water is forced back through the sewers and causes emanation of sewer gas in and near various compounds, and is a source of danger to residents in the immediate neighbourhood.

The increased number of cases of typhoid fever, dysentery, diarrhœa, diphtheria, and septic throats that have occurred of late is probably caused chiefly by the defective and insanitary drainage system. For this reason, and having in view further increase in population, a more sanitary system of drainage is urgently called for. With a low-lying and subsiding Settlement, surrounded by a tidal river, such as Shamien is, the most suitable method of drainage seems to

be an entirely surface system. The advantages anticipated by this method over the existing deep system are:—

(1.) The ability to close all the existing exits at the sea wall, which, with additional pointing by cement of the whole of the Bund wall around Shamien, will minimise the washing away of sand, etc., and consequent subsidence of the Settlement and sinking of the initial and middle portions of the drains.

(2.) Should any cracking and sinking of the drains occur, defects are readily seen and more easily remedied.

(3.) There should be no regurgitation at high tide, and no escape of poisonous gases anywhere near respective compounds.

(4.) There would be no obstruction by roots of trees.

(5.) Any garbage that may find access, either accidentally or wilfully, can be readily removed.

(6.) With unbroken drains, composed of concrete, further pollution of wells will be impossible.

(7.) More healthy, owing to influence of sun and air upon contents of drain.

(8.) No harbour offered to rats or cockroaches.

(9.) Expense of outlay less.

(10.) Whereas annual expense of maintenance may be greater, owing to coolie hire by Municipal Council for sweeping, etc., expense will be more uniform than that incurred by any other system.

(11.) Efficiency experienced by this system in similar conditions in other towns.

The system as recommended should be used for sullage and surface water only, and no sewage of any description. Various landowners would be required to connect their respective drains with municipal drains alongside their compound, and in most cases only at small cost. All sewage should be conveyed daily, as at present time, by buckets, and is a source of revenue to the Municipal Council. The only danger or objection to carrying out this system is the possibility of causing epidemic of fever, etc.; but such an event, I trust, will not occur.

TYPES DE LÉPREUX MENDIANTS À LA PORTE DE L'HÔPITAL FRANÇAIS DE MONGTZE (YUNNAN).

NOTES CLINIQUES SUR LA LÈPRE.

Par le Docteur GEORGES BARBÉZIEUX.

Le Yunnan est, certainement, un centre, un foyer de léprose: le nombre est considérable de ces malheureux, qui errent à travers les campagnes, à travers les rues des villes, fréquentant les pagodes abandonnées, présentant les horribles stigmates de la lèpre: Il y a, au Yunnan, des villages entiers de lépreux—villages de cultivateurs, juchés sur le flanc des montagnes, ou couchés dans la plaine—dont les habitants vivent misérablement du produit de quelques rizières. Ces lépreux ont peu de relations avec le monde extérieur, bien que leur vie soit libre, qu'ils ne soient gênés par aucun règlement, frappés d'aucune interdiction, atteints par aucun ostracisme. Cependant, ils se cachent, vivent entre eux et ne se rapprochent des villes que lorsque la gravité de leur mal leur a rendu tout travail impossible. Alors, ils abandonnent le village et vont augmenter l'immense armée de loqueteux, qui vit de la charité publique. Depuis la venue des Européens, dans notre région, le nombre des lépreux mendiants s'est considérablement accru. Assis au bord des routes, à la porte des établissements français, ils sollicitent la pitié de l'étranger, exposant à *nu* leurs plaies hideuses, rongés tout vivants par la vermine.

D'après le Dr. Dom Sauton, il existerait, au Yunnan, 12,000 lépreux, sur une population de 12 millions d'habitants, soit 1 pour 100 de la population totale. Mais cette statistique n'a rien de rigoureux. Il n'existe, en effet, dans cette province éloignée, aucun établissement destiné aux lépreux, partant aucun contrôle. Et puis, il n'y a pas 12 millions d'habitants dans la province, mais seulement 8 à 9 millions.

Si je m'en rapporte à ma pratique personnelle, je trouve, sur les 2,129 malades indigènes, soignés à l'hôpital français de Mongtze, au cours de l'exercice 1903, 149 lépreux, soit 7 pour cent, en chiffres ronds, des maladies traitées dans notre seule région, c'est à dire, dans un rayon de 150 à 200 *li*.

On ne pourrait, cependant, d'après ces chiffres, établir un rapport entre le nombre des lépreux qui vivent au Yunnan et le chiffre de la population totale. Les lépreux sont, en effet, de tous les malades, ceux qui ont, le plus volontiers, recours au médecin étranger, qui viennent de plus loin le consulter, ne trouvant dans leur pays, dans toute la province, aucune commisération, aucune aide, aucune lumière. Il apparait, toutefois, que le nombre des lépreux, au Yunnan, est, de beaucoup—presque du double—supérieur à celui indiqué par le Dr. Dom Sauton, ce qui justifie amplement l'opinion que j'exprimais en commençant: à savoir, que le Yunnan est un des foyers les plus importants de la léprose.

Nous avons vu qu'il n'existe, au Yunnan, aucun règlement sanitaire, excluant les lépreux de la vie commune; il n'existe aucun établissement, public ou privé, où ces malheureux pourraient trouver les soins nécessaires: ils se présentent donc librement aux consultations des médecins français, attachés aux postes consulaires de Yunnan-sen et de Mongtze, mêlés à la foule des malades, sollicitant une aumône, autant et plus que des remèdes contre le mal qui les ronge.

La présente étude porte, surtout, sur l'étiologie de la léprose.

Entre l'école qui reconnait l'hérédité comme unique moyen de propagation de la léprose et l'école qui ne considère que la contagion, nous avons adopté une troisième conclusion, admis une troisième hypothèse: *la lèpre est presque toujours acquise.* L'hérédité, les tares physiologiques, la misère créent seulement un terrain favorable à l'éclosion, au développement de la maladie.

C'est—croyons-nous—ce que démontreront les 85 observations que nous avons recueillies à l'hôpital de Mongtze et ce qui ressort de notre pratique journalière.

CAS DE LÈPRE SOIGNÉS À L'HÔPITAL DE

NOMBRE DE MALADES
CAS DE LÈPRE . .

NUMÉROS D'ORDRE.	NOMS.	AGE.	PROFESSION.	SITUATION.	HABITAT.	ANTÉCÉDENTS.	RÉGIME ALIMENTAIRE
		Ans.					
1	K'AO YEOU PEN.....	39	Cultivateur..	Aisée.....	Montagne....	Parents morts depuis longtemps, non lépreux ; un frère et une sœur morts en bas âge. Pas de syphilis.	Riz, porc, légumes, thé ; n'a jamais mangé de poisson salé.
2	LAO YEOU TEN.....	20	„ ..	„	„	Père et mère bien portants ; deux frères et deux sœurs bien portants.	„ „
3	LI TCHAO OUAN.....	20	„ ..	„	„	Ne peut fournir aucun renseignement.	Riz, porc.....
4	PE OUEN MING	37	„ ..	Aisé...	Plaine.....	Père mort, il y a 10 ans ; mère morte, il y a 3 ans ; trois frères morts ; trois sœurs vivantes et bien portantes.	Riz, légumes, thé ; n'a jamais mangé de poisson salé ; mangé beaucoup de poulet.
5	TANG FA KING.....	37	„ ..	„	„	Père et mère morts ; n'a ni frères ni sœurs. Il existe des lépreux dans son village.	Riz, maïs, légumes ; n'a jamais mangé de poisson salé.
6	OUANG SIAO OU.....	22	„ ..	„	„	Père et mère morts depuis longtemps ; a une sœur mariée et bien portante. A fréquenté, mais rarement, des lépreux.	Riz, maïs, légumes, porc.
7	TING FOU TSEN.....	12	Coolie.....	Pauvre.....	Montagne....	Père et mère vivants, non lépreux. Il n'y a pas de lépreux dans son village et il n'a jamais fréquenté de lépreux.	Riz, porc, légumes ; n'a jamais mangé de poisson salé.
8	HOUANG YEOU MIN.....	14	Cultivateur..	Aisée.....	„	Père et mère vivants, non lépreux ; a un jeune frère lépreux. Il n'y a pas d'autres lépreux dans son village.	„ „
9	HOUANG SIAO LIANG....	12	S.P.	„	„	Frère du précédent.....	Même régime .....
10	KO JOUEN.....	42	Mineur.....	Pauvre.....	Plaine.....	Père mort ; mère vivante. Pas de lépreux dans sa famille ; plusieurs lépreux dans son village.	Riz, porc, légumes, poisson salé.
11	LU JOU TSONG	46	Cultivateur..	„	Montagne....	Père mort ; mère vivante et bien portante ; trois frères et quatre sœurs bien portants. Aucun cas de lèpre dans sa famille ; n'a jamais fréquenté de lépreux.	Riz, porc, légumes ; n'a jamais mangé de poisson salé.
12	TOU OUEN KUN.....	24	„ ..	„	Plaine..	Père et mère morts, non lépreux ; une sœur bien portante. Pas de lépreux dans la famille, ni dans le village ; il a, cependant, fréquenté quelques lépreux d'un village voisin.	„ „

MONGTZE, AU COURS DE L'ANNÉE 1903.

TRAITÉS . . . 2,129
. 149

Examen clinique.	Début de la maladie.	Hérédité.	Contagion.	Lèpre acquise.	Etiologie.	Observations.
Quelques macules; main gauche en griffe.	?	Non probable..	Possible.....	Probable..	Douteuse.	
Atrophie musculaire; mains en griffes; papules nombreuses sur les bras; zônes d'anesthésie sur les membres et au niveau des papules.	Il y a 10 années	„ ..	Non probable..	„ ..	.....	Il s'agit certainement, ici d'un cas de lèpre acquise, puisqu'on ne trouve aucun antécédent héréditaire, puisque le malade dit n'avoir jamais fréquenté de lépreux.
Rétraction des tendons; atrophie musculaire; perte de plusieurs phalanges; léprômes au visage, aux bras et sur le corps.	Récent.....	?	Possible.....	?	Douteuse..	Ce malade a fréquenté des lépreux; il nous dit que l'on croit, dans son village, que la lèpre se transmet par la viande du poulet, "les poules absorbant les crachats des lépreux."
Perte des sourcils; quelques zônes d'insensibilité sur les membres; épaississement de la peau du visage.	„	Non probable..	„	?	„ ..	Ce malade a fréquenté quelques lépreux.
Perte des sourcils; insensibilité et épaississement de la peau du visage.	„	„ ..	„	?	„ ..	Ce malade n'a jamais eu, dit-il, de rapports avec les autres lépreux.
Cas douteux. Ce malade est venu me consulter, parce que, dit-il, son "visage lui semble être comme du bois" et que la lèpre "commence comme cela."	„	„ ..	„	?	„ ..	Cas douteux. Ce malade n'est jamais revenu à ma consultation.
Perte des sourcils; épaississement de la peau du visage; écrasement du nez.	„	„ ..	Non probable..	Probable..	.....	Il y a lieu de croire à une lèpre acquise.
Perte des sourcils; épaississement de la peau du visage, avec quelques léprômes tuberculeux; main gauche en griffe.	Il y a 3 années	„ ..	„ ..	„ ..	.....	Même observation.
Épaississement des traits.....	Début.....	„ ..	Possible.....	?	Douteuse..	Ce malade est le frère du précédent, vivant de la même vie. On peut admettre la contagion, ou l'acquisition.
Lèpre à forme papuleuse.....	Plusieurs années.	„ ..	„	.....	.....	Ce malade a fréquenté quelquefois les autres lépreux, avant d'être malade lui même.
Lèpre à forme tuberculeuse..	„	„ ..	Non probable..	Probable.		
Perte des sourcils; épaississement des traits; macules.	Il y a 2 ou 3 ans.	„ ..	Possible.....	?	Douteuse.	

Numéros d'ordre.	Noms.	Age.	Profession.	Situation.	Habitat.	Antécédents.	Régime alimentaire
		Ans.					
13	Lou Tchouen.....	23	Cultivateur..	Pauvre.....	Montagne....	Père vivant, mère morte, non lépreux. Pas de lèpre dans la famille, ni dans son village; n'a jamais fréquenté de lépreux.	Riz, légumes; n'a jam mangé de poisson sal
14	Liang Tche Ting.....	28	„ ..	„	Plaine.....	Père vivant, mère morte, non lépreux; un frère et une sœur bien portants. Pas de lépreux dans la famille; a fréquenté quelques lépreux qui habitent dans son village.	„ „
15	Kao U Fa.....	27	„ ..	„	„	Père mort, mère vivante, non lépreux; quatre frères bien portants. Aucun lépreux dans la famille; a, cependant, fréquenté quelques lépreux qui habitent dans son village.	Riz, porc, légumes; jamais mangé de pois salé.
16	Liang Yeou Iu.....	35	„ ..	Aisée.....	Montagne....	Père et mère morts, non lépreux; a un frère bien portant. Ne connait pas de lépreux dans sa famille; il n'y a pas de lépreux dans son village et il n'a jamais fréquenté de lépreux.	„ „
17	Long Tang.....	41	„ ..	„	Plaine.....	Père mort, mère bien portante; un frère et deux sœurs bien portants. Pas de lèpre dans la famille; il y a d'autres lépreux dans son village et il les a quelquefois fréquentés.	„ „
18	Tcheng Lou Ts'ai.....	29	Charpentier	„	„	Père et mère morts, non lépreux; il ne connait pas de lépreux dans sa famille. Il y a des lépreux dans son village, mais il affirme ne les jamais avoir fréquentés.	Riz, porc, poulet, th légumes; n'a jamai mangé de poisson salé.
19	Chen Pao Ho.....	27	Cultivateur..	„	„	Père et mère vivants, bien portants. Pas de lèpre dans la famille; quelques lépreux dans son village.	Mangé quelquefois du poi son salé.
20	Li T'ien Ho.....	23	„ ..	Aisé.....	Montagne....	Père et mère vivants, bien portants. Pas de lèpre dans la famille; mais il a fréquenté quelques lépreux de son village.	N'a jamais mangé de poi son salé; riz, porc, l gumes.
21	Tcheng Mai Yeou.....	24	„ ..	Aisée.....	Plaine.....	Père et mère vivants, ayant tous deux la lèpre; frère et sœur bien portants. Il y a d'autres lépreux dans sa famille et dans son village.	Riz, porc; n'a jamai mangé de poisson salé.
22	Fou Tchang Yen.....	20	„ ..	„	„	Père et mère morts; frère et sœur bien portants. Il y a des lépreux dans sa famille et il les fréquente journellement.	Riz, porc, légumes; n jamais mangé de pois salé.
23	Ou Siao Foung (f.).....	21	„ ..	„	„	Elle a son père et sa mère vivants et bien portants. Pas de lèpre dans la famille; elle a fréquenté quelques lépreux de son village.	Riz, porc, légumes. E a mangé du poisson sal
24	T'ao Siao Lien.....	16	„ ..	„	„	Père et mère vivants et bien portants; frère et sœurs bien portants. Personne n'a la lèpre dans sa famille, non plus que dans son village.	Riz, porc, légumes; n jamais mangé de pois salé.
25	Tsai Kin Y.....	29	„ ..	„	„	Père mort; mère bien portante. A des parents lépreux, qu'il fréquente journellement.	„ „
26	Tien Tsing.....	13	„ ..	„	Montagne....	Père vivant; mère lépreuse avant son mariage. Pas d'autre lépreux dans son village.	„ „

Examen clinique.	Début de la maladie.	Hérédité.	Contagion.	Lèpre acquise.	Etiologie.	Observations.
)pre à forme tuberculeuse..	Il y a 3 ans.....	Non probable..	Non probable..	Probable..	....	Ce malade que j'ai pu suivre a été très amélioré par le traitement. Les tuberculômes du visage ont disparu. Huile de chaulmoogra, arsenic, glycéro-phosphate de chaux.
,, ,, ..	Il y a plusieurs années.	,, ..	Possible.....	?	Douteuse.	
,, ,, ..	,, ,,	,, ..	,, ...	?	,,	
)pre à forme papuleuse ; main en griffe.	,, ,,	,, ..	Non probable..	Probable.		
aies aux jambes ; perte des sourcils ; mains en griffes ; atrophie musculaire.	,, ,,	,, ..	Possible.....	?	Douteuse..	Il faut observer que son frère et ses deux sœurs, qui vivent avec lui, n'ont pas été atteints. Il s'agirait donc plutôt d'un cas de lèpre acquise.
èpre à forme tuberculeuse..	,, ,,	,, ..	Non probable..	Probable.		
,, ,, ..	,, ,,	,, ..	Possible.....	?	Douteuse.	
,, ,, ..	,, ,,	,, ..	,, ...	?	,,	
èpre à forme tuberculeuse ; perte des phalanges ; léprômes.	,, ,,	Probable.....	,, ...	?	,,	
erte des sourcils ; mains en griffe ; atrophie musculaire.	,, ,,	Possible.....	,, ...	?	,,	
laies des jambes ; main en griffe.	,, ,,	Non probable..	,, ...	?	,,	
èpre à forme papuleuse ; perte des sourcils.	,, ,,	,, ..	Non probable..	Probable.		
èpre à forme tuberculeuse..	,, ,,	Possible.....	?	?	Douteuse.	
,, ,, ..	,, ,,	,, ...	?	?	,,	

Numéros d'ordre.	Noms.	Age.	Profession.	Situation.	Habitat.	Antécédents.	Régime alimentaire
		Ans.					
27	Yang Houng Che (f.)	64	Cultivateur	Aisée	Montagne	Père et mère morts, non lépreux. Pas de lèpre dans la famille; mais elle a fréquenté quelques lépreux de son village.	Riz, porc, légumes; n jamais mangé de poiss salé.
28	Ouang Si Ming	18	„	„	Vallée	Père et mère vivants et bien portants; une sœur lépreuse avec laquelle il vit.	„ „
29	In Ouan Ling	33	„	„	„	Père et mère morts, non lépreux. Pas de lèpre dans sa famille; il a fréquenté d'autres lépreux de son village.	„ „
30	Ouan Siao Lao	16	„	„	Montagne	Père et mère vivants, bien portants. Pas de lépreux dans la famille; mais il a fréquenté d'autres lépreux.	„ „
31	Tcheng Hsin Yao	40	„	„	Plaine	Père et mère vivants; frère et sœur bien portants. Aucun lépreux dans sa famille, ni dans son village. Il a eu occasion, cependant, de connaître quelques lépreux.	Fumeur d'opium. A ma du poisson salé.
32	Li Ouang Pan	29	„	„	„	Père mort, non lépreux; mère vivante et bien portante. Pas de lèpre dans la famille; a fréquenté quelques lépreux de son village.	Riz, porc, légumes; n jamais mangé de poiss salé. Fume l'opium.
33	Yeou Kai Kia	35	„	„	Montagne	Père et mère vivants, bien portants; frère et sœur lépreux. Lépreux dans le village.	Riz, porc, légumes; n jamais mangé de poiss salé.
34	Yeou Kaï Che (f.)	34	„	„	„	Sœur du précédent	„ „
35	Yeou Kaï Yen	45	„	„	„	Frère des précédents	„ „
36	Lou Siao Kiu	20	„	„	„	Père et mère vivants, bien portants; frère lépreux. Lèpre dans le village.	„ „
37	Lou Siao Sse	18	„	„	Plaine	Père et mère vivants, bien portants. Pas de lépreux dans sa famille; pas de lépreux dans son village; n'a jamais fréquenté de lépreux.	„ „
38	Fou Siao Yang	25	„	„	„	Père et mère morts, non lépreux; un oncle lépreux qu'il a fréquenté de temps en temps.	Riz, porc, légumes; a ma du poisson salé.
39	Tang Kaï Tchang	30	„	„	„	Père mort, mère vivante, non lépreux. Il n'y a pas de lépreux dans sa famille, ni dans son village; a vu quelques lépreux en voyageant.	Riz, porc, légumes; n jamais mangé de poiss salé.
40	Ouang Tching	16	„	„	„	Père et mère vivants et bien portants. Il n'y a pas d'autres lépreux dans sa famille, ni dans son village; n'a jamais fréquenté de lépreux.	„ „
41	Tsien Tchang	32	„	„	Montagne	Père mort, non lépreux; mère vivante et bien portante. Pas de lépreux dans sa famille; il y a des lépreux dans son village.	„ „
42	Pou Li Ho	31	„	„	„	Père et mère morts, non lépreux; oncle lépreux. Lépreux dans le village et il les a fréquentés.	Riz, porc, légumes, poiss salé.
43	Tien Fa	35	„	„	Plaine	Père et mère morts, non lépreux. Pas de lépreux dans sa famille; il a fréquenté des lépreux, qui habitent dans son village.	Riz, porc, légumes; n jamais mangé de poiss salé.
44	Lou Siao Min	25	„	„	„	Pas de renseignements	Riz, porc, légumes ...
45	Lou Tchang Che (f.)	34	„	„	„	„ „	„ „

Examen clinique.	Début de la maladie.	Hérédité.	Contagion.	Lèpre acquise.	Etiologie.	Observations.
èpre à forme maculeuse.....	Il y a longtemps.	Non probable..	Possible.....	?	Douteuse.	
laies ; perte de phalanges...	Il y a plusieurs années.	„ ..	„	?	Très douteuse.	
'erte des sourcils ; main en griffe ; atrophie musculaire ; quelques macules.	„ „	„ ..	„	?		
èpre à forme tuberculeuse..	„ „	„ ..	„	?	.....	Ce malade traité par l'arsenic et le mercure s'est trouvé amélioré de mars à juillet, soit au bout de 5 mois de traitement.
'erte des sourcils ; main en griffe.	„ „	„ ..	?	Possible...	Douteuse.	
èpre à forme tuberculeuse..	„ „	„ ..	Possible.....	?	„	
„ „ ..	„ „	„ ..	„	?		
„ „ ..	„ „	„ ..	„	?		
„ „ ..	„ „	„ ..	„	?		
„ „ ..	„ „	„ ..	„	?		
Perte des sourcils ; main en griffe ; macules et papules.	„ „	„ ..	Non probable..	Probable..	.....	Traitement arsenical. Amélioration constatée au bout de 6 mois.
Lèpre à forme tuberculeuse..	„ „	„ ..	Possible.....	?	Douteuse.	
Lèpre à forme papuleuse ; macules ; léprômes ulcérés.	„ „	„ ..	Non probable..	Probable.		
Lèpre à forme tuberculeuse..	„ „	„ ..	„ ..	„		
„ „ ..	„ „	„ ..	Possible.....	?		
„ „ ..	„ „	„ ..	„	?		
Perte des sourcils ; perte de plusieurs phalanges ; léprômes.	Il y a 12 années	„ ..	„	?	Douteuse.	
Lèpre à forme tuberculeuse..	?	?	?	?	?	
„ „ ..	?	?	?	?	?	Nos. 44, 45 et 46 sont cousins germains. On ne peut obtenir aucun renseignement.

Numéros d'ordre.	Noms.	Age.	Profession.	Situation.	Habitat.	Antécédents.	Régime alimentaire.
		Ans.					
46	Lou Siao Tchouang.....	23	Cultivateur..	Aisée	Plaine.....	Pas de renseignements	Riz, porc, légumes .....
47	Lou K'oue Fang	35	„ ..	„	„	Père et mère très âgés, non lépreux. Pas de lépreux dans sa famille ; pas de lépreux dans son village, mais il a connu d'autres lépreux.	Riz, porc, légumes, poulet..
48	Ou Toung Fan.....	18	Coolie.....	Pauvre	„	Père et mère non lépreux ; un frère vivant, non lépreux ; oncle et tante lépreux ; un cousin, fils des précédents, lépreux. Pas de lèpre dans son village.	Riz, porc, légumes .....
49	Li Ouang Toung.....	32	Cultivateur..	Aisée	„	Père et mère bien portants ; plusieurs frères bien portants. Aucun lépreux dans sa famille. Il y a un autre lépreux dans le village et il mangerait avec lui.	„ „ .....
50	Lou Pao Fou.....	16	„ ..	Pauvre	„	Père et mère morts, non lépreux ; n'a ni frère ni sœur. Il n'y a pas de lépreux dans sa famille, ni dans son village et il n'a jamais fréquenté de lépreux.	Se nourrit exclusivement de riz.
51	Ouang Tsong.....	33	„ ..	„	„	Père et mère vivants, bien portants ; un frère bien portant. Pas de lèpre dans sa famille, ni dans son village. Il n'a jamais fréquenté de lépreux.	Riz, porc, légumes, poulet ; a mangé du poisson salé.
52	Lao Té Min	28	„ ..	Aisée	„	Père mort, mère vivante, non lépreux. Il n'y a pas de lépreux dans sa famille. Il a seulement un beau-frère lépreux. Pas de lépreux dans son village.	Riz, porc, pouleta, poisson salé.
53	Lo Tseng.....	30	Coolie.....	Pauvre	„	Père mort, non lépreux ; mère vivante ; un frère non lépreux. Il n'y a pas de lépreux dans sa famille, ni dans son village et il n'a jamais fréquenté de lépreux.	Riz, porc, légumes .....
54	Tang Ta Lin.....	18	„	„	„	Père et mère morts, lépreux ; il y a 6 ans ; n'a jamais eu ni frère ni sœur. Il n'a pas d'autres parents lépreux et il n'y a pas de lépreux dans son village.	Riz, légumes.....
55	Li I.....	37	Cultivateur..	Aisée	„	Père et mère morts, non lépreux ; un frère vivant, non lépreux. Pas de lépreux dans sa famille. Il a fréquenté d'autres lépreux qui habitent dans sa maison.	Riz, porc, légumes, poissons salés.
56	Tsien Siao Kouei.....	19	Mendiant....	Pauvre	Montagne....	Père et mère morts, non lépreux ; un frère non lépreux. Pas de lépreux dans sa famille, ni dans son village ; n'a jamais fréquenté de lépreux.	Riz, porc, légumes .....
57	Lo Siao La	19	Cultivateur..	Aisée	„	Père mort, lépreux, il y a 6 ans ; mère vivante, non lépreuse ; un frère non lépreux. Il n'y a jamais eu d'autre lépreux que son père dans la famille. Pas d'autre lépreux dans le village.	„ „ .....
58	Ouang Sou Tin	33	„ ..	Pauvre	„	Père et mère morts, non lépreux ; deux sœurs bien portantes. Pas de lèpre dans la famille, ni dans le village ; n'a jamais fréquenté de lépreux.	„ „ .....

Examen clinique.	Début de la maladie.	Hérédité.	Contagion.	Lèpre acquise.	Etiologie.	Observations.
Lèpre à forme tuberculeuse..	?	?	?	?	?	
Lèpre à forme papuleuse; quelques léprômes ulcérés.	Il y a 7 ou 8 années.	Non probable..	Peu probable...	Probable.		
Lèpre à forme scurveuse; plaques et macules; atrophie musculaire.	Récent.....	Possible.....	?	?	Douteuse.	
Perte des sourcils; main en griffe; quelques ulcères des mains; éruption prurigineuse; pieds enflés; diminution et retard de la sensibilité. Il est très amaigri.	Il y a 6 ou 7 ans.	Non probable..	Possible.....	?	„ ..	Ce malade a été très amélioré par le traitement à l'huile de chaulmoogra, arsenic, fer, quinquina.
Lèpre à la période tertiaire; aplatissement du nez; macules; atrophie musculaire; aspect squelettique des mains.	Il y a 3 années	„ ..	Non probable..	Probable.		
Macules; léprômes tuberculeux; chûte des poils; petit doigt de la main gauche rétracté.	Il y a plusieurs années.	„ ..	, ..	„		
Léprômes tuberculeux au visage; epaississement de la peau qui est lisse; cicatrices de léprômes aux jambes.	„ „	„ ..	Possible.....	?	Douteuse.	
Peau du visage épaissir, insensible; perte des sourcils.	Il y a 1 an.....	„ ..	Non probable..	Probable.		
Facies spécial; chûte des cils et des sourcils; rhinite légère; anesthésie de la peau du visage.	Il y a 2 ans.....	Possible.....	?	?	Douteuse..	Il faut remarquer que sa maladie a commencé il y a 2 ans seulement, ce qui fait douter de l'hérédité.
Lèpre à forme tuberculeuse..	Il y a 10 ans...	Non probable..	Possible.....	?	„ ..	Il y a des lépreux dans sa maison et seul il a contracté la lèpre.
Plaques; macules; fissures de la peau; atrophie des doigts.	Il y a 3 ans.....	„ ..	Non probable..	Probable.		
Perte des poils; macules; ulcérations.	Il y a 5 ou 6 ans.	Possible.....	?	?	Douteuse..	L'hérédité paternelle est plus rare. Cette observation est remarquable, puisque la mère n'a pas contracté la lèpre du père.
Peau du visage épaissir et insensible; légère chûte des sourcils.	Très récent.....	Non probable..	Non probable..	Probable.		

Numéros d'ordre.	Noms.	Age.	Profession.	Situation.	Habitat.	Antécédents.	Régime alimentaire.
		Ans.					
59	Ouang Fo Tsen.....	51	Coolie.....	Pauvre.....	Plaine.....	Père non lépreux ; mère morte, non lépreuse. Ne connait aucun cas de lèpre chez ses ascendants. Lépreux dans son village.	Riz, légumes.....
60	Teou Min Fa.....	23	Étudiant.....	Aisée.....	Ville.....	Père et mère vivants, non lépreux ; un frère non lépreux ; une sœur agée de 20 ans *ayant la lèpre ;* un frère mort *lépreux.* Ce dernier était marié à une lépreuse et n'avait pas la lèpre avant son mariage. Toute cette famille habitait la même maison.	Riz, porc, légumes.....
61	Tsen Fou Tsi.....	20	S.P.	Pauvre.....	Montagne ...	Père et mère morts, non lépreux ; une sœur non lépreuse. Pas de lèpre dans la famille.	Riz, porc, légumes, poisson salé, poulet.
62	Tsen Houng Tseng.....	21	Briquetier...	Aisée.....	Plaine.....	Père et mère bien portants, deux frères et deux sœurs bien portants. Il n'y a de lépreux, ni dans sa famille, ni dans son village.	Riz, porc, légumes.....
63	Mao Iu Kai.....	29	Cultivateur..	„	Montagne....	Père et mère bien portants ; un frère et cinq sœurs non lépreux. Le mari d'une des sœurs est lépreux.	Riz, poulet, porc, légumes
64	Ouei Tseng Pao.....	31	„ ..	„	Plaine.....	Père et mère morts, non lépreux. Il n'y a pas de lépreux dans sa famille ; il n'y a pas de lépreux dans son village.	Riz et légumes.....
65	I Sao Tang.....	28	„ ..	„	„	Père mort, non lépreux ; mère vivante, non lépreuse ; deux sœurs non lépreuses ; *beau-père lépreux,* mais sa femme n'est pas lépreuse. Il y a des lépreux dans son village.	Riz, porc, poulet, canard..
66	Ouang Iao Chan.....	42	Berger.....	Pauvre.....	Vallée.....	Père et mère morts, non lépreux ; une sœur non lépreuse. Pas de lèpre dans la famille, ni dans le village.	Riz, porc, légumes, poulet
67	Lo Yeou Tsai.....	30	S.P.	Mendiant....	Ville.....	Père mort, lépreux ; mère lépreuse ; oncle lépreux.	Riz, débris de nourriture..
68	Yang Kin Ho.....	38	Cultivateur..	Aisée.....	Plaine.....	Père vivant, non lépreux ; mère morte, non lépreuse. Il a fréquenté quelques lépreux ; il n'y a pas de lépreux dans sa famille.	Riz, porc, légumes.....
69	Ta Tseng Iu.....	38	Mendiant....	Pauvre.....	Montagne....	Père et mère morts, non lépreux ; deux frères vivants, non lépreux. Il n'y a de lépreux, ni dans sa famille, ni dans son village.	Riz, légumes.....
70	Ta Iu Fo.....	22	„	„	Plaine.....	Père et mère morts il y a très longtemps ; ni frères, ni sœurs. Il ne connait pas de lépreux dans sa famille, mais il y en a dans son village.	Riz, maïs, légumes, porc, poisson salé.
71	Ta Tsai.....	38	„	„	„	Père et mère vivants, non lépreux. Pas de lépreux dans sa famille ; *sa femme n'est pas lépreuse et ses cinq enfants ne sont pas lépreux.* Il y a des lépreux dans son village.	Maïs, poulet, porc, légumes

Examen clinique.	Début de la maladie.	Hérédité.	Contagion.	Lèpre acquise.	Etiologie.	Observations.
Main droite en griffe ; perte de plusieurs phalangettes ; macules.	Il y a 3 ans....	Non probable..	Possible.....	?	Douteuse.	
Perte des sourcils ; main droite en griffe ; papules ; fissures aux pieds ; perte de plusieurs phalanges ; éléphantiasis.	Il y a 11 ans...	?	„	?	„ ..	Il semblerait plutôt qu'il s'agît, ici, d'une lèpre primitivement acquise et, peut-être, développée chez les autres par contagion.
Nez aplati ; les deux mains en griffes ; perte de plusieurs phalanges ; atrophie musculaire.	Il y a 5 ans....	Peu probable...	„	?	„ ..	Ce malade a, effectivement, fréquenté quelques lépreux de son village.
Perte des sourcils ; atrophie des muscles ; peau squammeuse ; plante des pieds crevassée ; commencement de léprôme sur la cornée de l'œil gauche.	Il y a 2 ans....	Non probable..	Non probable..	Probable.		
Chûte des sourcils ; lèpre anesthésique.	Lèpre au dèbut	„ ..	Possible.....	?	Douteuse.	
Perte des sourcils ; ulcères des jambes ; éléphantiasis des pieds ; la peau est luisante, fendillée.	Il y a 10 ans...	„ ..	Non probable..	Probable.		
Grandes macules à forme de psoriasis ; ulcères des pieds ; la peau du visage est rouge, boursoufflée ; anesthésie au niveau des macules.	Il y a plusieurs années.	„ ..	Possible.....	?	Douteuse.	
Perte des sourcils ; nez aplati ; peau du visage tannée ; annulaire droit rétracté ; pieds enflées ; plaies au niveau des phalanges.	Il y a 6 ans.....	„ ..	Non probable..	Probable.		
Macules ; énorme plaie sur la face antérieure de la jambe droite.	Il y a 10 ans...	Probable.....	?	?	?	
Perte des sourcils ; facies caractéristique ; sensibilité très diminuée.	Récent.....	Non probable..	Possible.....	?	Douteuse.	
Cloison du nez détruite ; macules ; tubercules ; plaies sur les membres.	Il y a 11 ans...	„ ..	Non probable..	Probable.		
Macules ; quelques plaies ; sensibilité très atténuée.	Il y a 1 an.....	?	?	?	Douteuse.	
Plaies aux mains ; mal perforant aux deux pieds ; tubercules et macules ; sensibilité diminuée ; douleurs vagues.	Il y a 5 ans....	Non probable..	Peu probable...	Probable..	.....	A remarquer que sa femme et ses cinq enfants ne sont pas lépreux.

Numéros d'ordre.	Noms.	Age.	Profession.	Situation.	Habitat.	Antécédents.	Régime alimentaire.
72	Iu Kai Tsai.....	Ans. 20	Cultivateur..	Aisée.....	Plaine.....	Père vivant, non lépreux ; mère morte, non lépreuse ; deux frères et quatre sœurs non lépreux. Pas de lépreux dans sa famille, ni dans son village.	Riz, porc, légumes.....
73	Ouang Che (f.).....	22	„ ..	„	„	Père mort, non lépreux ; mère vivante, non lépreuse. Pas de lépreux dans sa famille, ni dans son village. Le mari n'est pas lépreux ; enfant d'un an bien portant.	„ „ .....
74	Iang Siao Tsi.....	33	„ ..	„	Montagne....	Père mort, non lépreux ; mère bien portante ; un oncle lépreux ; une sœur non lépreuse. Seul lépreux dans son village, mais il a fréquenté des lépreux.	Maïs, porc, légumes.....
75	Li Houeï Ouen	33	„ ..	„	Plaine.....	Père et mère morts, non lépreux ; oncle non lépreux. Pas de lépreux dans sa famille, ni dans son village ; n'a jamais connu de lépreux.	Riz, porc, légumes.....
76	Tin K'aï.....	18	„ ..	„	„	Père et mère morts, non lépreux. Pas de lèpre dans sa famille ; a fréquenté des lépreux.	„ „ .....
77	Li Hong.....	20	„ ..	Pauvre.....	Montagne....	Père et mère vivants, non lépreux. Pas de lépreux dans sa famille ; a fréquenté des lépreux.	„ „ .....
78	Siao Ouang La	37	„ ..	„	„	Père mort, non lépreux ; mère vivante, non lépreuse ; deux sœurs non lépreuses ; femme et trois enfants non lépreux. Pas de lépreux dans sa famille, ni dans son village ; n'a jamais fréquenté de lépreux.	Maïs, porc, légumes.....
79	Liou Tsing Te.....	25	„ ..	Aisée.....	„	Père et mère vivants, non lépreux ; sœur non lépreuse. Lépreux dans son village.	Riz, porc, légumes.....
80	Kiang Fa...	33	„ ..	Pauvre.....	Plaine.....	Père vivant, non lépreux ; mère morte, non lépreuse ; une sœur bien portante. Pas de lépreux dans sa famille, ni dans son village.	Riz, débris de nourriture.
81	Ouang Tai Fong.....	24	„ ..	Aisée	„	Père mort, lépreux ; mère vivante, non lépreuse. Pas de lépreux dans son village. Sa femme, ni son fils n'ont la lèpre.	Riz, porc, légumes, poisson salé.
82	Ouang U Ouen	25	Mendiant....	Pauvre	„	Père mort, non lépreux ; mère vivante, non lépreuse. Pas de lépreux dans sa famille, ni dans son village ; a connu des lépreux.	„ „

Examen clinique.	Début de la maladie.	Hérédité.	Contagion.	Lèpre acquise.	Etiologie.	Observations.
èpre à forme tuberculeuse; de nombreux tubercules sur le visage; les doigts sont retournées en dehors et en haut; sensibilité conservée, même au niveau des tubercules.	Il y a 5 ou 6 ans	Non probable..	Non probable..	Probable.		
'erte des sourcils; nez aplati; léprômes tuberculeux au visage, sur les membres; sensibilité nulle au niveau des léprômes.	Il y a 1 an.....	„ ..	„ ..	„ ..	.....	A remarquer que le mari n'est pas lépreux, ni l'enfant qu'elle nourrit au sein.
éprômes tuberculeux; perte des sourcils; sensibilité disparue au niveau des membres.	Il y a 10 ans	?	?	?	Douteuse.	
Douleurs dans les membres, qu'il dit être insensibles "comme du bois"; atrophie des muscles de la main droite.	Il y a 2 ans....	Non probable..	Non probable..	Probable..	.....	Cas douteux.
Douleurs dans les os; perte d'une phalange d'un orteil.	„	„ ..	Possible.....	?	Douteuse.	
'erte des sourcils; mains en griffe avec ulcérations; léprômes; sensibilité nulle au niveau des membres et des léprômes; douleurs ostéoscopiques.	Il y a 3 ans....	„ ..	„	?	„	
'erte des phalanges et des orteils; mains en griffe; perte des sourcils; léprôme sur la cornée de l'œil droit; macules.	Il y a 8 ans....	„ ..	Non probable..	Probable..	.....	A remarquer que sa femme et ses trois enfants ne sont pas lépreux.
Main en griffe; perte des deux orteils au pied droit.	Il y a 6 ans.....	„ ..	Possible.....	?	Douteuse.	
Macules sur le corps; nez aplati; perte des sourcils; sensibilité nulle sur les mains.	Il y a 9 mois...	„ ..	Non probable..	Probable.		
Perte des sourcils; nez aplati; la peau du visage est parcheminée; quelques léprômes de la face; squammes; fissures de la peau; ulcérations aux pieds; laryngite.	Il y a 6 ans.....	Possible.....	?	?	Douteuse..	A remarquer que ni la mère, ni la femme, bien que mariées à des lépreux, n'ont pas contracté la lèpre.
Perte des phalanges de la main droite, des orteils du pied gauche; sourcils intacts.	Il y a 10 ans ...	Non probable..	Possible.....	?	„	

Numéros d'ordre.	Noms.	Age.	Profession.	Situation.	Habitat.	Antécédents.	Régime alimentaire.
83	Tsen Mai Iu.....	*Ans.* 26	Cultivateur..	Aisée.....	Plaine.....	Père lépreux ; mère non lépreuse ; sa femme n'a pas la lèpre ; son enfant d'un an n'a pas la lèpre. Il y a huit lépreux dans son village.	Riz, porc, légumes.....
84	Ou Tzeu U.....	20	„ ..	„	„	Père mort, non lépreux ; mère non lépreuse ; frère et sœur non lépreux ; oncle paternel lépreux. Il y a huit lépreux dans son village.	Riz, porc, légumes, poulet
85	Ouang Che (f.).....	30	„ ..	Pauvre.....	„	Père et mère non lépreux ; une sœur non lépreuse ; seule lépreuse dans sa famille. Elle est mariée depuis 12 ans et son mari n'a pas la lèpre. Il n'y a pas de lépreux dans les deux familles. Un enfant mort-né.	Riz, porc, légumes.....

Examen clinique.	Début de la maladie.	Hérédité.	Contagion.	Lèpre acquise.	Etiologie.	Observations.
Main droite en griffe; lépromes sur les jambes; douleurs dans les membres; sourcils intacts.	Il y a 4 ans	Possible.....	?	?	Douteuse..	A remarquer que la femme et la mère n'ont pas contracté la lèpre. L'enfant d'un an n'est pas lépreux.
Macules; plaques; atrophie des muscles de la main; peau lisse et sèche.	Il y a 5 ans....	?	?	?	„	
Perte des phalanges des orteils des deux pieds; mains en griffe; sensibilité nulle sur les quatre membres; conservée le long de la colonne vertébrale.	Il y a 20 ans ...	Non probable..	Non probable..	Probable..	.....	A noter: un enfant mort-né. Le mari n'a pas la lèpre, depuis 12 ans qu'il cohabite. Aujourd'hui il renvoie sa femme.

Résumé.

Hommes		78
Femmes		5
Enfants		2
Nombre des observations recueillies		85
Habitat	Plaine	51
	Montagne	29
	Ville	2
	Vallée	3
Situation	Riche	0
	Aisée	59
	Pauvre	26
Combien ont mangé du poisson salé		12
Hérédité	Probable	2
	Possible	8
	Non probable	67
	Douteuse	8
Contagion	Probable	0
	Possible	42
	Non probable	26
	Peu probable	2
	Douteuse	15
Lèpre acquise	Probable	29
	Possible	1
	Non probable	0
	Douteuse	55

Conclusions.

Sexe.—Les hommes paraissent plus fréquemment frappés que les femmes, au moins dans cette région de la Chine, car, pour d'autres régions, c'est le contraire qui se produit, d'après le Dr. Dom Sauton.

Habitat.—Le Yunnan est un pays d'altitudes, en sorte que l'on peut dire—malgré les différences observées entre la plaine et la montagne—que l'altitude parait être favorable au développement de la léprose.

Situation.—Si la misère, en débilitant l'organisme, favorise le développement de la lèpre, comme de toute maladie, on ne peut dire qu'elle soit une cause immédiate de léprose.

Alimentation.—Il est difficile d'incriminer l'alimentation dans l'éclosion de la léprose. Cependant il est à remarquer que le poisson salé ne parait pas être le véhicule du bacille de Hansen, comme on l'a prétendu. Il faut remarquer également que toutes ces populations vivent de riz, cultivent des rizières. Il serait intéressant de chercher de ce côté.

Professions.—La plupart des malades traités appartiennent à la classe des cultivateurs de rizières.

Hérédité.—L'hérédité n'apparait pas comme cause de la lèpre. Il est à supposer que le lépreux n'a pas d'enfants, ou que les enfants qu'il peut avoir meurent avant terme, ou avant les deux premières années.

Contagion.—La lèpre est peu contagieuse, *si elle l'est.*

Lèpre acquise.—La lèpre parait, le plus souvent, *sinon toujours*, acquise. Le tempérament prédispose à la lèpre, comme à toute autre grande diathèse. Il semble que ce soit dans le sol—le sol des rizières—dans l'atmosphère des régions où l'on cultive le riz, qu'il faille rechercher la cause immédiate de la léprose, le bacille de Hansen. C'est l'étude à laquelle nous nous livrons actuellement.

DR. RAM LALL SIRCAR'S REPORT ON THE HEALTH OF TENGYUEH

For the Half-year ended 31st March 1904.

SANITARY CONDITION.

THERE has been no alteration or improvement in the drainage system. The condition of the latrines and the system of disposal of human excreta remain as last reported.

METEOROLOGICAL.

The following table shows the total monthly rainfall for the period under review, as compared with the same period of the previous year:—

MONTH.	RAINFALL.	
	1902-03.	1903-04.
	Inches.	*Inches.*
October	2.23	4.84
November	0.16	5.54
December	0.93	0.26
January	0.35	0.82
February	0.89	0.97
March	2.30	1.29

The heaviest rainfall for any one day during the period was 2.75 inches, in November.

GENERAL HEALTH.

From December to the middle of March the general health of the port was fairly good; that of foreigners was fair.

NUMBER OF PATIENTS AND THE DISEASES, ETC., TREATED.

The total number of patients treated was 342; of these, 270 were males, 58 females, and 14 children. The total number of foreigners treated was 20. There were no deaths among foreigners.

Diseases.—The most prevalent diseases were malarial fever, diseases of the eye, of the respiratory system, of the digestive system, and of the skin, and ulcers.

There was no epidemic of cholera or dysentery during the period. It appears that there was an epidemic of small-pox amongst the Chinese in the town, which was very fatal among children, commencing in the latter part of March. No case came under my treatment. I think it will not be out of place to mention that I was able to vaccinate about 42 children, some

with excellent results. I attribute the cause of the failures which occurred to the old and bad vaccine received from Burma. Next year I hope to carry on this work with greater success, as the people are gradually gaining faith in vaccination.

Surgical Operations.—The following is a list of surgical operations, performed during the period:—

Harelip	2	Evacuation of abscesses . . .	4
Opening of deep sinuses . .	1	Fistula in ano	1
Extraction of teeth	6	Delivery by forceps	2

The sinus case was that of a lady in the Taotai's yamên, who had had two sinuses on her leg for four years. One was 4½ inches deep, extending almost to the bone. She was operated upon under chloroform and completely cured. All the harelip cases were operated on under local anæsthesia of cocaine, with success. The two delivery cases, both primiparæ, occurred on the same night in different villages. They were in labour pains for four and five days respectively. When they were thought to be hopeless, I was called in to relieve them. I am glad to be able to record that, though single-handed, I managed, with great difficulty, to deliver the child in each case by forceps, and both the mothers and babies were doing well until the 5th day, when one baby died, owing to suppression of urine; I was not allowed to treat the case. The others did very well. I am proud of these two cases, which have established the faith of the people in foreign skill in dealing with such cases, in spite of their previous scepticism.

Leprosy.—There were two cases of leprosy treated during the period under review. The patients did not come for treatment regularly, except one, who is still under treatment. The latter has no home, and is lying in the so-called *pai-fang*. There were holes in both feet, in which numerous maggots formed and grew to from three-quarters to one inch in length. The maggots were killed by medicine, but the great toe of the left foot dropped down subsequently. The ulcers on the feet are now doing well. Patient is 32 years of age. The duration of the disease was only 15 months; there is no family history.

II.—SPECIAL SERIES.

No. 1.—Native Opium	Published	1864.
„ **2.**—Medical Reports: 66th and 67th Issues (First Issue, 1871)	„	1905.
„ **3.**—Silk	„	1881.
„ **4.**—Opium	„	1881.
„ **5.**—Notices to Mariners, 1904: Twenty-third Issue (First Issue, 1883)	„	1905.
„ **6.**—Chinese Music	„	1884.
„ **7.**—Instructions for making Meteorological Observations, and the Law of Storms in the Eastern Seas	„	1887.
„ **8.**—Medicines, etc., exported from Hankow and the other Yangtze Ports, with Tariff of Approximate Values	„	1888.
„ **9.**—Native Opium, 1887	„	1888.
„ **10.**—Opium: Crude and Prepared	„	1888.
„ **11.**—Tea, 1888	„	1889.
„ **12.**—Silk: Statistics, 1879–88	„	1889.
„ **13.**—Opium: Historical Note; or the Poppy in China	„	1889.
„ **14.**—Opium Trade: March Quarter, 1889	„	1889.
„ **15.**—Woosung Bar: Dredging Operations	„	1890.
„ **16.**—Chinese Jute	„	1891.
„ **17.**—Ichang to Chungking, 1890	„	1892.
„ **18.**—Chinese Life-boats, etc.	„	1893.
„ **19.**—Report on Sound Trials of Sirens	„	1895.
„ **20.**—Chungking: Business Quarter and Mooring Grounds, 1896	„	1896.
„ **21.**—China's Defective Currency: Mr. Woodruff's Remedial Suggestions	„	1897.
„ **22.**—Railways and Inland Taxation: Mr. Bredon's Memoranda concerning	„	1897.
„ **23.**—Outward Transit Pass Procedure at Canton: Provisional Rules	„	1897.
„ **24.**—International Marine Conference, Washington, 1889	„	1898.
„ **25.**—West River: Report on Trade Conditions, etc., in 1897	„	1901.
„ **26.**—Land Tax: the Inspector General's Suggestions *re* Collection, Appropriation, etc.	„	1904.
„ **27.**—An Inquiry into the Commercial Liabilities and Assets of China in International Trade	„	1904.